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> ##### SUPPLEMENTARY MATERIAL ON "Electrically modulated dynamics of a compound
    droplet in a confined microfluidic environment" #####
> ##### Expressions of the different constants in equations (A2) and (A4) #####
> here ac indicates a(cap), bc indicates b(cap)
> a1,0 := 0 :
> ac1,0 := -  $\frac{4}{K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1}$  :
> b1,0 := 0 :
> bc1,0 :=  $\frac{K^2 R1 R2 + K^2 R1 - K^2 R2 - K^2 + R1 R2 - R1 + R2 - 1}{K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1}$  :
> c1,0 := 0 :
> cc1,0 := -  $\frac{2 (R1 + 1)}{K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1}$  :
> e1,0 := 0 :
> ec1,0 :=  $\frac{2 K^2 (-1 + R1)}{K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1}$  :
>
> a1,0 := 0 :
> b1,0 := 0 :
> c1,0 := 0 :
> e1,0 := 0 :
> a2,1 := 0 :
> ac2,1 := 0 :
> b2,1 := 0 :
> bc2,1 := 0 :
> c2,1 := 0 :
> cc2,1 := 0 :
> e2,1 := 0 :
> ec2,1 := 0 :
> Mc2,0(t) := 0 :
> Lc2,0(t) := 0 :
> al := -  $\frac{1}{4} \left( -12 K^{10} \lambda I \lambda^2 + 24 K^{10} \lambda I \lambda^2 + 12 K^{10} \lambda^2 - 12 K^{10} \lambda I - 24 K^{10} \lambda^2 \right.$ 
     $- 48 K^8 \lambda I \lambda^2 + 12 K^{10} + 24 K^8 \lambda^2 + 48 K^8 \lambda I + 72 K^6 \lambda I \lambda^2 - 24 K^8 - 72 K^6 \lambda I$ 
     $- 48 K^4 \lambda I \lambda^2 - 24 K^4 \lambda^2 + 48 K^4 \lambda I - 12 K^2 \lambda I \lambda^2 + 24 K^4 - 24 K^2 \lambda I \lambda^2 - 12 K^2 \lambda^2$ 
     $- 12 K^2 \lambda I - 24 K^2 \lambda^2 - 12 K^2) / (K^2 (K^8 \lambda I \lambda^2 - K^8 \lambda I - K^8 \lambda^2 + K^8 - 2 K^6 \lambda I \lambda^2$ 
     $+ 4 K^6 \lambda I + K^6 \lambda^2 - 2 K^6 - 6 K^4 \lambda I + 2 K^2 \lambda I \lambda^2 + 4 K^2 \lambda I + K^2 \lambda^2 + 2 K^2 - \lambda I \lambda^2 - \lambda I$ 
     $- \lambda^2 - 1)) :$ 

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$$\begin{aligned} > a2 := -\frac{1}{4} (36 K^{10} \lambda l \lambda^2 - 36 K^{10} \lambda l \lambda^2 - 36 K^{10} \lambda^2 + 36 K^{10} \lambda^2 - 12 K^8 \lambda l \lambda^2 \\ &+ 12 K^8 \lambda l \lambda^2 + 12 K^8 \lambda^2 - 12 K^8 \lambda^2 - 12 K^6 \lambda l \lambda^2 - 12 K^6 \lambda l \lambda^2 - 12 K^6 \lambda^2 \\ &- 12 K^6 \lambda^2 + 36 K^4 \lambda l \lambda^2 + 36 K^4 \lambda l \lambda^2 + 36 K^4 \lambda^2 + 36 K^4 \lambda^2) / (K^2 (K^8 \lambda l \lambda^2 \\ &- K^8 \lambda l - K^8 \lambda^2 + K^8 - 2 K^6 \lambda l \lambda^2 + 4 K^6 \lambda l + K^6 \lambda^2 - 2 K^6 - 6 K^4 \lambda l + 2 K^2 \lambda l \lambda^2 \\ &+ 4 K^2 \lambda l + K^2 \lambda^2 + 2 K^2 - \lambda l \lambda^2 - \lambda l - \lambda^2 - 1)) : \end{aligned}$$

$$\begin{aligned} > a4 := -\frac{1}{4} (12 K^8 \lambda l \lambda^2 - 12 K^8 \lambda l - 12 K^8 \lambda^2 + 12 K^8 - 12 K^6 \lambda l \lambda^2 + 36 K^6 \lambda l - 12 K^6 \\ &- 12 K^4 \lambda l \lambda^2 - 36 K^4 \lambda l - 12 K^4 + 12 K^2 \lambda l \lambda^2 + 12 K^2 \lambda l + 12 K^2 \lambda^2 + 12 K^2) / \\ &((K^6 \lambda l \lambda^2 - K^6 \lambda l - K^6 \lambda^2 + K^6 - K^4 \lambda l \lambda^2 + 3 K^4 \lambda l - K^4 - K^2 \lambda l \lambda^2 - 3 K^2 \lambda l - K^2 \\ &+ \lambda l \lambda^2 + \lambda l + \lambda^2 + 1) K^2) : \end{aligned}$$

$$> a5 := 0 :$$

$$\begin{aligned} > a6 := -\frac{1}{4} (3 K^8 S1 S2 \lambda^2 a_{1,0}^2 - 3 K^8 S1 S2 \lambda^2 a_{1,0}^2 + 3 K^8 S2 \lambda l \lambda^2 c_{1,0}^2 - 3 K^8 S2 \lambda l \lambda^2 c_{1,0}^2 \\ &+ K^8 S2 \lambda l \lambda^2 e_{1,0}^2 - K^8 S2 \lambda l \lambda^2 e_{1,0}^2 - 3 K^8 S1 S2 a_{1,0}^2 + 3 K^8 S1 S2 a_{1,0}^2 - 3 K^8 S2 \lambda l \\ &c_{1,0}^2 + 3 K^8 S2 \lambda l c_{1,0}^2 - K^8 S2 \lambda l e_{1,0}^2 + K^8 S2 \lambda l e_{1,0}^2 - 6 K^8 S2 \lambda^2 c_{1,0}^2 + 6 K^8 S2 \lambda^2 c_{1,0}^2 \\ &- K^8 S2 \lambda^2 e_{1,0}^2 + K^8 S2 \lambda^2 e_{1,0}^2 - K^8 \lambda l \lambda^2 b_{1,0}^2 + K^8 \lambda l \lambda^2 b_{1,0}^2 + 6 K^8 S2 c_{1,0}^2 - 6 K^8 S2 \\ &cc_{1,0}^2 + K^8 S2 e_{1,0}^2 - K^8 S2 e_{1,0}^2 + K^8 \lambda l b_{1,0}^2 - K^8 \lambda l b_{1,0}^2 + K^8 \lambda^2 b_{1,0}^2 - K^8 \lambda^2 b_{1,0}^2 \\ &- 9 K^6 S2 \lambda l \lambda^2 c_{1,0}^2 + 9 K^6 S2 \lambda l \lambda^2 c_{1,0}^2 + 5 K^6 S2 \lambda l \lambda^2 e_{1,0}^2 - 5 K^6 S2 \lambda l \lambda^2 e_{1,0}^2 \\ &+ 3 K^8 \lambda l \lambda^2 - K^8 b_{1,0}^2 + K^8 b_{1,0}^2 + 9 K^6 S2 \lambda l c_{1,0}^2 - 9 K^6 S2 \lambda l c_{1,0}^2 + 3 K^6 S2 \lambda l e_{1,0}^2 \\ &- 3 K^6 S2 \lambda l e_{1,0}^2 + 3 K^6 S2 \lambda^2 c_{1,0}^2 - 3 K^6 S2 \lambda^2 c_{1,0}^2 - 3 K^6 S2 \lambda^2 e_{1,0}^2 + 3 K^6 S2 \lambda^2 e_{1,0}^2 \\ &- 5 K^6 \lambda l \lambda^2 b_{1,0}^2 + 5 K^6 \lambda l \lambda^2 b_{1,0}^2 - 3 K^8 \lambda l - 3 K^8 \lambda^2 - 3 K^6 S2 c_{1,0}^2 + 3 K^6 S2 c_{1,0}^2 \\ &- K^6 S2 e_{1,0}^2 + K^6 S2 e_{1,0}^2 - 3 K^6 \lambda l b_{1,0}^2 + 3 K^6 \lambda l b_{1,0}^2 + 3 K^6 \lambda^2 b_{1,0}^2 - 3 K^6 \lambda^2 b_{1,0}^2 \\ &+ 3 K^4 S1 S2 \lambda^2 a_{1,0}^2 - 3 K^4 S1 S2 \lambda^2 a_{1,0}^2 + 3 K^4 S2 \lambda l \lambda^2 c_{1,0}^2 - 3 K^4 S2 \lambda l \lambda^2 c_{1,0}^2 \\ &- 7 K^4 S2 \lambda l \lambda^2 e_{1,0}^2 + 7 K^4 S2 \lambda l \lambda^2 e_{1,0}^2 + 3 K^8 - 9 K^6 \lambda l \lambda^2 + K^6 b_{1,0}^2 - K^6 b_{1,0}^2 \\ &+ 3 K^4 S1 S2 a_{1,0}^2 - 3 K^4 S1 S2 a_{1,0}^2 - 9 K^4 S2 \lambda l c_{1,0}^2 + 9 K^4 S2 \lambda l c_{1,0}^2 - 3 K^4 S2 \lambda l e_{1,0}^2 \\ &+ 3 K^4 S2 \lambda l e_{1,0}^2 + 7 K^4 \lambda l \lambda^2 b_{1,0}^2 - 7 K^4 \lambda l \lambda^2 b_{1,0}^2 + 9 K^6 \lambda l + 3 K^6 \lambda^2 - 6 K^4 S2 c_{1,0}^2 \\ &+ 6 K^4 S2 c_{1,0}^2 - 4 K^4 S2 e_{1,0}^2 + 4 K^4 S2 e_{1,0}^2 + 3 K^4 \lambda l b_{1,0}^2 - 3 K^4 \lambda l b_{1,0}^2 + 3 K^4 \lambda^2 b_{1,0}^2 \\ &- 3 K^4 \lambda^2 b_{1,0}^2 + 3 K^2 S2 \lambda l \lambda^2 c_{1,0}^2 - 3 K^2 S2 \lambda l \lambda^2 c_{1,0}^2 + K^2 S2 \lambda l \lambda^2 e_{1,0}^2 \\ &- K^2 S2 \lambda l \lambda^2 e_{1,0}^2 - 3 K^6 + 3 K^4 \lambda l \lambda^2 + K^4 b_{1,0}^2 - K^4 b_{1,0}^2 + 3 K^2 S2 \lambda l c_{1,0}^2 \\ &- 3 K^2 S2 \lambda l c_{1,0}^2 + K^2 S2 \lambda l e_{1,0}^2 - K^2 S2 \lambda l e_{1,0}^2 + 3 K^2 S2 \lambda^2 c_{1,0}^2 - 3 K^2 S2 \lambda^2 c_{1,0}^2 \\ &+ K^2 S2 \lambda^2 e_{1,0}^2 - K^2 S2 \lambda^2 e_{1,0}^2 - K^2 \lambda l \lambda^2 b_{1,0}^2 + K^2 \lambda l \lambda^2 b_{1,0}^2 - 9 K^4 \lambda l + 3 K^4 \lambda^2 \\ &+ 3 K^2 S2 c_{1,0}^2 - 3 K^2 S2 c_{1,0}^2 + K^2 S2 e_{1,0}^2 - K^2 S2 e_{1,0}^2 - K^2 \lambda l b_{1,0}^2 + K^2 \lambda l b_{1,0}^2 \\ &- K^2 \lambda^2 b_{1,0}^2 + K^2 \lambda^2 b_{1,0}^2 - 3 K^4 + 3 K^2 \lambda l \lambda^2 - K^2 b_{1,0}^2 + K^2 b_{1,0}^2 + 3 S2 \lambda^2 e_{1,0}^2 \\ &- 3 S2 \lambda^2 e_{1,0}^2 + 3 K^2 \lambda l + 3 K^2 \lambda^2 + 3 S2 e_{1,0}^2 - 3 S2 e_{1,0}^2 + 3 K^2) / ((K^6 \lambda l \lambda^2 - K^6 \lambda l \\ &- K^6 \lambda^2 + K^6 - K^4 \lambda l \lambda^2 + 3 K^4 \lambda l - K^4 - K^2 \lambda l \lambda^2 - 3 K^2 \lambda l - K^2 + \lambda l \lambda^2 + \lambda l + \lambda^2 \\ &+ 1) K^2) : \end{aligned}$$

$$\begin{aligned}
> c1 := & -\frac{1}{4} \left(36 K^{10} \lambda l \lambda^2 - 36 K^{10} \lambda l \lambda^2 - 36 K^{10} \lambda^2 + 36 K^{10} \lambda^2 - 12 K^8 \lambda l \lambda^2 \right. \\
& + 12 K^8 \lambda l \lambda^2 + 12 K^8 \lambda^2 - 12 K^8 \lambda^2 - 12 K^6 \lambda l \lambda^2 - 12 K^6 \lambda l \lambda^2 - 12 K^6 \lambda^2 \\
& - 12 K^6 \lambda^2 + 36 K^4 \lambda l \lambda^2 + 36 K^4 \lambda l \lambda^2 + 36 K^4 \lambda^2 + 36 K^4 \lambda^2 \Big) / \left(K^4 (K^8 \lambda l \lambda^2 \right. \\
& - K^8 \lambda l - K^8 \lambda^2 + K^8 - 2 K^6 \lambda l \lambda^2 + 4 K^6 \lambda l + K^6 \lambda^2 - 2 K^6 - 6 K^4 \lambda l + 2 K^2 \lambda l \lambda^2 \\
& \left. + 4 K^2 \lambda l + K^2 \lambda^2 + 2 K^2 - \lambda l \lambda^2 - \lambda l - \lambda^2 - 1) \right) :
\end{aligned}$$

$$\begin{aligned}
> c2 := & -\frac{1}{4} \left(12 K^{12} \lambda l^2 \lambda^2 - 12 K^{12} \lambda l^2 \lambda^2 - 24 K^{12} \lambda l \lambda^2 + 24 K^{12} \lambda l \lambda^2 + 12 K^{12} \lambda^2 \right. \\
& - 24 K^{10} \lambda l^2 \lambda^2 - 12 K^{12} \lambda^2 + 48 K^{10} \lambda l^2 \lambda^2 + 24 K^{10} \lambda^2 - 48 K^{10} \lambda^2 - 72 K^8 \lambda l^2 \lambda^2 \\
& + 24 K^6 \lambda l^2 \lambda^2 + 72 K^8 \lambda^2 + 48 K^6 \lambda l^2 \lambda^2 - 24 K^6 \lambda^2 - 12 K^4 \lambda l^2 \lambda^2 - 48 K^6 \lambda^2 \\
& - 12 K^4 \lambda l^2 \lambda^2 - 24 K^4 \lambda l \lambda^2 - 24 K^4 \lambda l \lambda^2 - 12 K^4 \lambda^2 - 12 K^4 \lambda^2 \Big) / \left(K^4 (K^8 \lambda l \lambda^2 \right. \\
& - K^8 \lambda l - K^8 \lambda^2 + K^8 - 2 K^6 \lambda l \lambda^2 + 4 K^6 \lambda l + K^6 \lambda^2 - 2 K^6 - 6 K^4 \lambda l + 2 K^2 \lambda l \lambda^2 \\
& \left. + 4 K^2 \lambda l + K^2 \lambda^2 + 2 K^2 - \lambda l \lambda^2 - \lambda l - \lambda^2 - 1) \right) :
\end{aligned}$$

$$\begin{aligned}
> c3 := & -\frac{1}{4} \left(6 K^8 S2 \lambda l \lambda^2 c_{1,0}^2 + K^2 S2 \lambda l \lambda^2 e_{1,0}^2 + 9 K^6 S2 c_{1,0}^2 - S2 \lambda l \lambda^2 e_{1,0}^2 + S2 \lambda l \lambda^2 \right. \\
& e c_{1,0}^2 + K^6 S2 \lambda^2 e_{1,0}^2 - K^6 S2 \lambda^2 e c_{1,0}^2 - 3 K^{10} S2 \lambda l c c_{1,0}^2 - 3 K^4 S1 S2 a c_{1,0}^2 - 9 K^6 S1 S2 \\
& a_{1,0}^2 + 9 K^6 S1 S2 a c_{1,0}^2 + 3 K^8 S1 S2 a_{1,0}^2 - 3 K^8 S1 S2 a c_{1,0}^2 + 6 K^4 S2 \lambda^2 c c_{1,0}^2 \\
& + 3 K^8 S2 \lambda^2 e_{1,0}^2 - 3 K^8 S2 \lambda^2 e c_{1,0}^2 + 3 K^{10} S2 \lambda^2 c_{1,0}^2 - 3 K^{10} S2 \lambda^2 c c_{1,0}^2 - 3 K^2 S2 \lambda^2 \\
& e_{1,0}^2 + 3 K^2 S2 \lambda^2 e c_{1,0}^2 + 3 K^6 S2 \lambda^2 c_{1,0}^2 - 3 K^6 S2 \lambda^2 c c_{1,0}^2 - 6 K^4 S2 \lambda^2 c_{1,0}^2 - 9 K^8 S2 \lambda l \\
& c_{1,0}^2 + 9 K^8 S2 \lambda l c c_{1,0}^2 + 9 K^6 S2 \lambda l c_{1,0}^2 - 9 K^6 S2 \lambda l c c_{1,0}^2 + K^6 S2 \lambda l e_{1,0}^2 - K^6 S2 \lambda l e c_{1,0}^2 \\
& - 3 K^4 S2 \lambda l c_{1,0}^2 + 3 K^4 S2 \lambda l c c_{1,0}^2 - 3 K^4 S2 \lambda l e_{1,0}^2 + 3 K^4 S2 \lambda l e c_{1,0}^2 + 3 K^2 S2 \lambda l e_{1,0}^2 \\
& - 3 K^2 S2 \lambda l e c_{1,0}^2 + 3 K^8 \lambda l \lambda^2 b_{1,0}^2 - 3 K^8 \lambda l \lambda^2 b c_{1,0}^2 - 3 K^4 \lambda l \lambda^2 b_{1,0}^2 + 3 K^4 \lambda l \lambda^2 \\
& b c_{1,0}^2 + 3 K^{10} S1 S2 \lambda l \lambda^2 a_{1,0}^2 - 3 K^{10} S1 S2 \lambda l \lambda^2 a c_{1,0}^2 + 3 K^6 S1 S2 \lambda l \lambda^2 a c_{1,0}^2 - S2 e_{1,0}^2 \\
& + S2 e c_{1,0}^2 - 3 K^8 \lambda^2 + 12 K^9 M_{2,0}(t) - 12 K^5 M_{2,0}(t) + 12 K^3 M_{2,0}(t) - 3 K^4 \lambda^2 \\
& - K^2 S2 \lambda l \lambda^2 e c_{1,0}^2 - 6 K^8 S2 \lambda l \lambda^2 c c_{1,0}^2 - 3 K^8 S2 \lambda l \lambda^2 e_{1,0}^2 + 3 K^8 S2 \lambda l \lambda^2 e c_{1,0}^2 \\
& - 6 K^4 S2 \lambda l \lambda^2 c_{1,0}^2 + 6 K^4 S2 \lambda l \lambda^2 c c_{1,0}^2 + 4 K^4 S2 \lambda l \lambda^2 e_{1,0}^2 - 4 K^4 S2 \lambda l \lambda^2 e c_{1,0}^2 \\
& - 3 K^{10} S2 \lambda l \lambda^2 c_{1,0}^2 + 3 K^{10} S2 \lambda l \lambda^2 c c_{1,0}^2 + 3 K^4 S1 S2 \lambda^2 a_{1,0}^2 - 3 K^4 S1 S2 \lambda^2 a c_{1,0}^2 \\
& - 3 K^6 S1 S2 \lambda^2 a_{1,0}^2 + 3 K^6 S1 S2 \lambda^2 a c_{1,0}^2 + 3 K^6 S2 \lambda l \lambda^2 c_{1,0}^2 - 3 K^6 S2 \lambda l \lambda^2 c c_{1,0}^2 \\
& - K^6 S2 \lambda l \lambda^2 e_{1,0}^2 + K^6 S2 \lambda l \lambda^2 e c_{1,0}^2 - 3 K^{10} S1 S2 \lambda l a_{1,0}^2 + 3 K^{10} S1 S2 \lambda l a c_{1,0}^2 \\
& - 9 K^6 S1 S2 \lambda l a_{1,0}^2 + 9 K^6 S1 S2 \lambda l a c_{1,0}^2 + 3 K^4 S1 S2 \lambda l a_{1,0}^2 - 3 K^4 S1 S2 \lambda l a c_{1,0}^2 \\
& + 9 K^8 S1 S2 \lambda l a_{1,0}^2 - 9 K^8 S1 S2 \lambda l a c_{1,0}^2 - 12 K^7 M_{2,0}(t) \lambda l \lambda^2 + 12 K^3 M_{2,0}(t) \lambda l \lambda^2 \\
& - 3 K^4 S1 S2 \lambda l \lambda^2 a c_{1,0}^2 + 3 K^4 S1 S2 \lambda l \lambda^2 a_{1,0}^2 - 3 K^6 S1 S2 \lambda l \lambda^2 a_{1,0}^2 - K^6 S2 e_{1,0}^2 \\
& - 3 K^8 S2 c_{1,0}^2 - 3 K^8 \lambda^2 b_{1,0}^2 + 12 K^3 M_{2,0}(t) \lambda^2 + 7 K^4 S2 e_{1,0}^2 - 12 K^9 M_{2,0}(t) \lambda^2 \\
& - 9 K^6 S2 c c_{1,0}^2 - 12 K^9 M_{2,0}(t) \lambda l - 3 K^4 \lambda^2 b_{1,0}^2 + 5 K^2 S2 e c_{1,0}^2 - 3 K^4 \lambda l \lambda^2 + 3 K^4 S2 \\
& c c_{1,0}^2 + K^6 S2 e c_{1,0}^2 + 3 K^8 \lambda^2 b c_{1,0}^2 + 36 K^7 M_{2,0}(t) \lambda l + 12 K^3 M_{2,0}(t) \lambda l \\
& \left. - 36 K^5 M_{2,0}(t) \lambda l - S2 \lambda^2 e_{1,0}^2 + S2 \lambda^2 e c_{1,0}^2 - 3 K^4 S2 c_{1,0}^2 - S2 \lambda l e_{1,0}^2 + S2 \lambda l e c_{1,0}^2 \right) :
\end{aligned}$$

$$\begin{aligned}
& + 3 K^4 \lambda_2 b c_{1,0}^2 + 12 K^9 M_{2,0}(t) \lambda_1 \lambda_2 - 12 K^5 M_{2,0}(t) \lambda_1 \lambda_2 + 3 K^{10} S_2 \lambda_1 c_{1,0}^2 \\
& + 3 K^4 S_1 S_2 a_{1,0}^2 - 3 K^{10} S_1 S_2 \lambda_2 a_{1,0}^2 + 3 K^{10} S_1 S_2 \lambda_2 a c_{1,0}^2 - 3 K^8 S_1 S_2 \lambda_2 a_{1,0}^2 \\
& + 3 K^8 S_1 S_2 \lambda_2 a c_{1,0}^2 + 3 K^{10} S_1 S_2 a_{1,0}^2 - 3 K^{10} S_1 S_2 a c_{1,0}^2 - 3 K^8 S_1 S_2 \lambda_1 \lambda_2 a_{1,0}^2 \\
& + 3 K^8 S_1 S_2 \lambda_1 \lambda_2 a c_{1,0}^2 - 12 K^7 M_{2,0}(t) - 3 K^{10} S_2 c_{1,0}^2 + 3 K^{10} S_2 c c_{1,0}^2 - 5 K^2 S_2 e_{1,0}^2 \\
& - 7 K^4 S_2 e c_{1,0}^2 + 3 K^8 S_2 c c_{1,0}^2 + 3 K^8 \lambda_1 \lambda_2) / ((K^6 \lambda_1 \lambda_2 - K^6 \lambda_1 - K^6 \lambda_2 + K^6 \\
& - K^4 \lambda_1 \lambda_2 + 3 K^4 \lambda_1 - K^4 - K^2 \lambda_1 \lambda_2 - 3 K^2 \lambda_1 - K^2 + \lambda_1 \lambda_2 + \lambda_1 + \lambda_2 + 1) K^4) :
\end{aligned}$$

$$c4 := 0 :$$

$$\begin{aligned}
c5 := & -\frac{1}{4} (12 K^9 \lambda_1 \lambda_2 - 12 K^9 \lambda_1 - 12 K^9 \lambda_2 + 12 K^9 - 12 K^7 \lambda_1 \lambda_2 + 36 K^7 \lambda_1 - 12 K^7 \\
& - 12 K^5 \lambda_1 \lambda_2 - 36 K^5 \lambda_1 - 12 K^5 + 12 K^3 \lambda_1 \lambda_2 + 12 K^3 \lambda_1 + 12 K^3 \lambda_2 + 12 K^3) / \\
& ((K^6 \lambda_1 \lambda_2 - K^6 \lambda_1 - K^6 \lambda_2 + K^6 - K^4 \lambda_1 \lambda_2 + 3 K^4 \lambda_1 - K^4 - K^2 \lambda_1 \lambda_2 - 3 K^2 \lambda_1 - K^2 \\
& + \lambda_1 \lambda_2 + \lambda_1 + \lambda_2 + 1) K^4) :
\end{aligned}$$

$$\begin{aligned}
c6 := & -\frac{1}{4} (3 K^{10} S_1 S_2 \lambda_1 \lambda_2 a_{1,0}^2 - 3 K^{10} S_1 S_2 \lambda_1 \lambda_2 a c_{1,0}^2 - 3 K^{10} S_1 S_2 \lambda_1 a_{1,0}^2 \\
& + 3 K^{10} S_1 S_2 \lambda_1 a c_{1,0}^2 - 3 K^{10} S_1 S_2 \lambda_2 a_{1,0}^2 + 3 K^{10} S_1 S_2 \lambda_2 a c_{1,0}^2 - 3 K^{10} S_2 \lambda_1 \lambda_2 c_{1,0}^2 \\
& + 3 K^{10} S_2 \lambda_1 \lambda_2 c c_{1,0}^2 + 3 K^{10} S_1 S_2 a_{1,0}^2 - 3 K^{10} S_1 S_2 a c_{1,0}^2 + 3 K^{10} S_2 \lambda_1 c_{1,0}^2 \\
& - 3 K^{10} S_2 \lambda_1 c c_{1,0}^2 + 3 K^{10} S_2 \lambda_2 c_{1,0}^2 - 3 K^{10} S_2 \lambda_2 c c_{1,0}^2 - 3 K^8 S_1 S_2 \lambda_1 \lambda_2 a_{1,0}^2 \\
& + 3 K^8 S_1 S_2 \lambda_1 \lambda_2 a c_{1,0}^2 - 3 K^{10} S_2 c_{1,0}^2 + 3 K^{10} S_2 c c_{1,0}^2 + 9 K^8 S_1 S_2 \lambda_1 a_{1,0}^2 \\
& - 9 K^8 S_1 S_2 \lambda_1 a c_{1,0}^2 - 3 K^8 S_1 S_2 \lambda_2 a_{1,0}^2 + 3 K^8 S_1 S_2 \lambda_2 a c_{1,0}^2 + 6 K^8 S_2 \lambda_1 \lambda_2 c_{1,0}^2 \\
& - 6 K^8 S_2 \lambda_1 \lambda_2 c c_{1,0}^2 - 3 K^8 S_2 \lambda_1 \lambda_2 e_{1,0}^2 + 3 K^8 S_2 \lambda_1 \lambda_2 e c_{1,0}^2 + 3 K^8 S_1 S_2 a_{1,0}^2 \\
& - 3 K^8 S_1 S_2 a c_{1,0}^2 - 9 K^8 S_2 \lambda_1 c_{1,0}^2 + 9 K^8 S_2 \lambda_1 c c_{1,0}^2 + 3 K^8 S_2 \lambda_2 e_{1,0}^2 - 3 K^8 S_2 \lambda_2 e c_{1,0}^2 \\
& + 3 K^8 \lambda_1 \lambda_2 b_{1,0}^2 - 3 K^8 \lambda_1 \lambda_2 b c_{1,0}^2 - 3 K^6 S_1 S_2 \lambda_1 \lambda_2 a_{1,0}^2 + 3 K^6 S_1 S_2 \lambda_1 \lambda_2 a c_{1,0}^2 \\
& - 3 K^8 S_2 c_{1,0}^2 + 3 K^8 S_2 c c_{1,0}^2 - 3 K^8 \lambda_2 b_{1,0}^2 + 3 K^8 \lambda_2 b c_{1,0}^2 - 9 K^6 S_1 S_2 \lambda_1 a_{1,0}^2 \\
& + 9 K^6 S_1 S_2 \lambda_1 a c_{1,0}^2 - 3 K^6 S_1 S_2 \lambda_2 a_{1,0}^2 + 3 K^6 S_1 S_2 \lambda_2 a c_{1,0}^2 + 3 K^6 S_2 \lambda_1 \lambda_2 c_{1,0}^2 \\
& - 3 K^6 S_2 \lambda_1 \lambda_2 c c_{1,0}^2 - K^6 S_2 \lambda_1 \lambda_2 e_{1,0}^2 + K^6 S_2 \lambda_1 \lambda_2 e c_{1,0}^2 + 3 K^8 \lambda_1 \lambda_2 - 9 K^6 S_1 S_2 \\
& a_{1,0}^2 + 9 K^6 S_1 S_2 a c_{1,0}^2 + 9 K^6 S_2 \lambda_1 c_{1,0}^2 - 9 K^6 S_2 \lambda_1 c c_{1,0}^2 + K^6 S_2 \lambda_1 e_{1,0}^2 - K^6 S_2 \lambda_1 \\
& e c_{1,0}^2 + 3 K^6 S_2 \lambda_2 c_{1,0}^2 - 3 K^6 S_2 \lambda_2 c c_{1,0}^2 + K^6 S_2 \lambda_2 e_{1,0}^2 - K^6 S_2 \lambda_2 e c_{1,0}^2 \\
& + 3 K^4 S_1 S_2 \lambda_1 \lambda_2 a_{1,0}^2 - 3 K^4 S_1 S_2 \lambda_1 \lambda_2 a c_{1,0}^2 - 3 K^8 \lambda_2 + 9 K^6 S_2 c_{1,0}^2 - 9 K^6 S_2 c c_{1,0}^2 \\
& - K^6 S_2 e_{1,0}^2 + K^6 S_2 e c_{1,0}^2 + 3 K^4 S_1 S_2 \lambda_1 a_{1,0}^2 - 3 K^4 S_1 S_2 \lambda_1 a c_{1,0}^2 + 3 K^4 S_1 S_2 \lambda_2 a_{1,0}^2 \\
& - 3 K^4 S_1 S_2 \lambda_2 a c_{1,0}^2 - 6 K^4 S_2 \lambda_1 \lambda_2 c_{1,0}^2 + 6 K^4 S_2 \lambda_1 \lambda_2 c c_{1,0}^2 + 4 K^4 S_2 \lambda_1 \lambda_2 e_{1,0}^2 \\
& - 4 K^4 S_2 \lambda_1 \lambda_2 e c_{1,0}^2 + 3 K^4 S_1 S_2 a_{1,0}^2 - 3 K^4 S_1 S_2 a c_{1,0}^2 - 3 K^4 S_2 \lambda_1 c_{1,0}^2 + 3 K^4 S_2 \lambda_1 \\
& c c_{1,0}^2 - 3 K^4 S_2 \lambda_1 e_{1,0}^2 + 3 K^4 S_2 \lambda_1 e c_{1,0}^2 - 6 K^4 S_2 \lambda_2 c_{1,0}^2 + 6 K^4 S_2 \lambda_2 c c_{1,0}^2 - 3 K^4 \lambda_1 \lambda_2 \\
& b_{1,0}^2 + 3 K^4 \lambda_1 \lambda_2 b c_{1,0}^2 - 3 K^4 S_2 c_{1,0}^2 + 3 K^4 S_2 c c_{1,0}^2 + 7 K^4 S_2 e_{1,0}^2 - 7 K^4 S_2 e c_{1,0}^2 \\
& - 3 K^4 \lambda_2 b_{1,0}^2 + 3 K^4 \lambda_2 b c_{1,0}^2 + K^2 S_2 \lambda_1 \lambda_2 e_{1,0}^2 - K^2 S_2 \lambda_1 \lambda_2 e c_{1,0}^2 - 3 K^4 \lambda_1 \lambda_2 \\
& + 3 K^2 S_2 \lambda_1 e_{1,0}^2 - 3 K^2 S_2 \lambda_1 e c_{1,0}^2 - 3 K^2 S_2 \lambda_2 e_{1,0}^2 + 3 K^2 S_2 \lambda_2 e c_{1,0}^2 - 3 K^4 \lambda_2 \\
& - 5 K^2 S_2 e_{1,0}^2 + 5 K^2 S_2 e c_{1,0}^2 - S_2 \lambda_1 \lambda_2 e_{1,0}^2 + S_2 \lambda_1 \lambda_2 e c_{1,0}^2 - S_2 \lambda_1 e_{1,0}^2 + S_2 \lambda_1 e c_{1,0}^2) :
\end{aligned}$$

$$-S2 \lambda_2 e_{1,0}^2 + S2 \lambda_2 e c_{1,0}^2 - S2 e_{1,0}^2 + S2 e c_{1,0}^2) / ((K^6 \lambda_1 \lambda_2 - K^6 \lambda_1 - K^6 \lambda_2 + K^6 - K^4 \lambda_1 \lambda_2 + 3 K^4 \lambda_1 - K^4 - K^2 \lambda_1 \lambda_2 - 3 K^2 \lambda_1 - K^2 + \lambda_1 \lambda_2 + \lambda_1 + \lambda_2 + 1) K^4) :$$

$$\begin{aligned} > L_{2,0}(t) := \frac{1}{a4 c5 - a5 c4} \left(\left(\right. \right. \\ & - \cosh \left(\frac{1}{2} \frac{1}{a1 c2 - a2 c1} \left(t (a1^2 c5^2 - 2 a1 a2 c4 c5 - 2 a1 a4 c2 c5 \right. \right. \\ & - 2 a1 a5 c1 c5 + 4 a1 a5 c2 c4 + a2^2 c4^2 + 4 a2 a4 c1 c5 - 2 a2 a4 c2 c4 - 2 a2 a5 c1 c4 \\ & + a4^2 c2^2 - 2 a4 a5 c1 c2 + a5^2 c1^2)^{1/2} \right) \left. \right) e^{\frac{1}{2} \frac{(-a1 c5 + a2 c4 - a4 c2 + a5 c1) t}{a1 c2 - a2 c1}} + 1 \left. \right) (a5 c6 \\ & - a6 c5) \left. \right) \\ & + \left(\sinh \left(\frac{1}{2} \frac{1}{a1 c2 - a2 c1} \left(t (a1^2 c5^2 - 2 a1 a2 c4 c5 - 2 a1 a4 c2 c5 \right. \right. \right. \\ & - 2 a1 a5 c1 c5 + 4 a1 a5 c2 c4 + a2^2 c4^2 + 4 a2 a4 c1 c5 - 2 a2 a4 c2 c4 - 2 a2 a5 c1 c4 \\ & + a4^2 c2^2 - 2 a4 a5 c1 c2 + a5^2 c1^2)^{1/2} \right) \left. \right) e^{\frac{1}{2} \frac{(-a1 c5 + a2 c4 - a4 c2 + a5 c1) t}{a1 c2 - a2 c1}} (-a1 a5 c5 c6 \\ & + a1 a6 c5^2 + 2 a2 a4 c5 c6 - a2 a5 c4 c6 - a2 a6 c4 c5 - a4 a5 c2 c6 - a4 a6 c2 c5 \\ & + a5^2 c1 c6 - a5 a6 c1 c5 + 2 a5 a6 c2 c4) \left. \right) / \\ & \left((a1^2 c5^2 - 2 a1 a2 c4 c5 - 2 a1 a4 c2 c5 - 2 a1 a5 c1 c5 + 4 a1 a5 c2 c4 \right. \\ & + a2^2 c4^2 + 4 a2 a4 c1 c5 - 2 a2 a4 c2 c4 - 2 a2 a5 c1 c4 + a4^2 c2^2 - 2 a4 a5 c1 c2 \\ & + a5^2 c1^2)^{1/2} (a4 c5 - a5 c4) \left. \right) : \end{aligned}$$

$$\begin{aligned} > M_{2,0}(t) := \frac{1}{a4 c5 - a5 c4} \left(-c6 a4 + c4 a6 \right. \\ & + \cosh \left(\frac{1}{2} \frac{1}{a1 c2 - a2 c1} \left(t (a1^2 c5^2 - 2 a1 a2 c4 c5 - 2 a1 a4 c2 c5 \right. \right. \\ & - 2 a1 a5 c1 c5 + 4 a1 a5 c2 c4 + a2^2 c4^2 + 4 a2 a4 c1 c5 - 2 a2 a4 c2 c4 - 2 a2 a5 c1 c4 \\ & + a4^2 c2^2 - 2 a4 a5 c1 c2 + a5^2 c1^2)^{1/2} \right) \left. \right) e^{\frac{1}{2} \frac{(-a1 c5 + a2 c4 - a4 c2 + a5 c1) t}{a1 c2 - a2 c1}} (a4 c6 \\ & - a6 c4) \left. \right) + \left((-a1 a4 c5 c6 + 2 a1 a5 c4 c6 - a1 a6 c4 c5 - a2 a4 c4 c6 + a2 a6 c4^2 \right. \\ & + a4^2 c2 c6 - a4 a5 c1 c6 + 2 a4 a6 c1 c5 - a4 a6 c2 c4 - a5 a6 c1 c4) \\ & e^{\frac{1}{2} \frac{(-a1 c5 + a2 c4 - a4 c2 + a5 c1) t}{a1 c2 - a2 c1}} \sinh \left(\frac{1}{2} \frac{1}{a1 c2 - a2 c1} \left(t (a1^2 c5^2 \right. \right. \\ & - 2 a1 a2 c4 c5 - 2 a1 a4 c2 c5 - 2 a1 a5 c1 c5 + 4 a1 a5 c2 c4 + a2^2 c4^2 + 4 a2 a4 c1 c5 \right. \end{aligned}$$

$$\begin{aligned}
& -2 a2 a4 c2 c4 - 2 a2 a5 c1 c4 + a4^2 c2^2 - 2 a4 a5 c1 c2 + a5^2 c1^2)^{1/2}) \Big) \Big) / \Big((a4 c5 \\
& - a5 c4) \\
& (a1^2 c5^2 - 2 a1 a2 c4 c5 - 2 a1 a4 c2 c5 - 2 a1 a5 c1 c5 + 4 a1 a5 c2 c4 + a2^2 c4^2 + 4 a2 a4 c1 c5 \\
& - 2 a2 a4 c2 c4 - 2 a2 a5 c1 c4 + a4^2 c2^2 - 2 a4 a5 c1 c2 + a5^2 c1^2)^{1/2} \Big) :
\end{aligned}$$

$$\begin{aligned}
> A_{2,0} := & -\frac{3}{4} \left(K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l \lambda 2 - K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l - K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 \right. \\
& + K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) - K^4 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l \lambda 2 + 3 K^4 \lambda l \left(\frac{d}{dt} Mc_{2,0}(t) \right) \\
& + K^4 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 - K^4 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda 2 - 3 \left(\frac{d}{dt} Mc_{2,0}(t) \right) K^4 \\
& + \left(\frac{d}{dt} Lc_{2,0}(t) \right) K^4 - K^2 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l \lambda 2 - 3 K^2 \lambda l \left(\frac{d}{dt} Mc_{2,0}(t) \right) \\
& + K^2 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 + \left(\frac{d}{dt} Mc_{2,0}(t) \right) K^2 + \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l \lambda 2 \\
& + \lambda l \left(\frac{d}{dt} Mc_{2,0}(t) \right) + \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 - \lambda 2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) + \frac{d}{dt} Mc_{2,0}(t) \\
& \left. - \left(\frac{d}{dt} Lc_{2,0}(t) \right) \right) / \left(K^6 \lambda l \lambda 2 - K^6 \lambda l - K^6 \lambda 2 + K^6 - K^4 \lambda l \lambda 2 + 3 K^4 \lambda l - K^4 \right. \\
& \left. - K^2 \lambda l \lambda 2 - 3 K^2 \lambda l - K^2 + \lambda l \lambda 2 + \lambda l + \lambda 2 + 1 \right) :
\end{aligned}$$

$$\begin{aligned}
> Ac_{2,0} := & \frac{1}{16} \left(-12 K^4 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) - 36 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2 - K^8 \lambda 2 \right. \\
& - 36 K^8 \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) + 12 K^4 \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) + 12 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2 - K^4 \lambda 2 \\
& + 2 K^6 \lambda 2 + K^4 S2 cc_{1,0}^2 - K^4 S1 S2 ac_{1,0}^2 - S2 ec_{1,0}^2 + 12 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2^2 \\
& - 12 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2 - 12 K^8 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2^2 \\
& - 12 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2^2 + 12 K^4 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2^2 + 3 K^8 S2 cc_{1,0}^2 - 3 K^4 S2 \\
& ec_{1,0}^2 - K^{10} S2 cc_{1,0}^2 - 3 K^6 S2 cc_{1,0}^2 + K^6 S2 ec_{1,0}^2 + 3 K^2 S2 ec_{1,0}^2 - 2 K^6 bc_{1,0}^2 \lambda 2 + K^8 \\
& bc_{1,0}^2 \lambda 2 + bc_{1,0}^2 K^4 \lambda 2 - S2 \lambda 2 ec_{1,0}^2 + 12 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2 + 12 K^8 \lambda 2^2 \left(\frac{d}{dt} M_{2,0}(t) \right) \\
& - 12 K^8 \lambda 2^2 \left(\frac{d}{dt} L_{2,0}(t) \right) + 12 K^8 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) + 12 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2^2 \\
& + 12 K^4 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2^2 - 12 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda 2^2 K^4 - 12 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2^2 \\
& + 12 K^4 \lambda l \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) + 36 K^8 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2 - K^{10} S1 S2 \lambda 2 ac_{1,0}^2 \\
& + K^8 S1 S2 \lambda 2 ac_{1,0}^2 + K^6 S1 S2 \lambda 2 ac_{1,0}^2 - K^4 S1 S2 \lambda 2 ac_{1,0}^2 + K^{10} S1 S2 ac_{1,0}^2 \\
& \left. + 3 K^6 S1 S2 ac_{1,0}^2 + K^{10} S2 \lambda 2 cc_{1,0}^2 + K^2 S2 \lambda 2 ec_{1,0}^2 - K^8 S2 ec_{1,0}^2 \lambda 2 - 3 K^6 S2 cc_{1,0}^2 \lambda 2 \right)
\end{aligned}$$

$$+ K^6 S2 ec_{1,0}^2 \lambda 2 + 2 S2 cc_{1,0}^2 K^4 \lambda 2 - 3 K^8 SI S2 ac_{1,0}^2) / (K^4 (K^2 - 1) (K^4 \lambda I \lambda 2 - K^4 \lambda I - K^4 \lambda 2 + K^4 + 2 K^2 \lambda I - K^2 \lambda 2 - \lambda I \lambda 2 - \lambda I - \lambda 2 - 1) \lambda 2) :$$

$$\begin{aligned} > B_{2,0} := \frac{1}{4} \left(K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda I \lambda 2 - K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda I - K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 \right. \\ &+ K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) - K^4 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda I \lambda 2 + 3 K^4 \lambda I \left(\frac{d}{dt} Mc_{2,0}(t) \right) \\ &+ 3 K^4 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 - 3 K^4 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda 2 - 7 \left(\frac{d}{dt} Mc_{2,0}(t) \right) K^4 \\ &+ 3 \left(\frac{d}{dt} Lc_{2,0}(t) \right) K^4 - K^2 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda I \lambda 2 - 3 K^2 \lambda I \left(\frac{d}{dt} Mc_{2,0}(t) \right) \\ &+ 3 K^2 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 + 5 \left(\frac{d}{dt} Mc_{2,0}(t) \right) K^2 + \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda I \lambda 2 \\ &+ \lambda I \left(\frac{d}{dt} Mc_{2,0}(t) \right) + \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 - 3 \lambda 2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) + \frac{d}{dt} Mc_{2,0}(t) \\ &\left. - 3 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \right) / (K^2 (K^6 \lambda I \lambda 2 - K^6 \lambda I - K^6 \lambda 2 + K^6 - K^4 \lambda I \lambda 2 + 3 K^4 \lambda I - K^4 \\ &- K^2 \lambda I \lambda 2 - 3 K^2 \lambda I - K^2 + \lambda I \lambda 2 + \lambda I + \lambda 2 + 1)) : \end{aligned}$$

$$\begin{aligned} > Bc_{2,0} := & -\frac{1}{16} \left(-12 K^4 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) - 12 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda I \lambda 2 - K^8 \lambda 2 \right. \\ & - 28 K^8 \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) + 4 K^4 \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) + 20 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2 - K^4 \lambda 2 \\ & + 2 K^6 \lambda 2 + K^4 S2 cc_{1,0}^2 - K^4 SI S2 ac_{1,0}^2 - S2 ec_{1,0}^2 + 4 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda I \lambda 2^2 \\ & - 4 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda I \lambda 2 - 4 K^8 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda I \lambda 2^2 - 4 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda I \lambda 2^2 \\ & + 4 K^4 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda I \lambda 2^2 + 3 K^8 S2 cc_{1,0}^2 - 3 K^4 S2 ec_{1,0}^2 - K^{10} S2 cc_{1,0}^2 - 3 K^6 S2 cc_{1,0}^2 \\ & + K^6 S2 ec_{1,0}^2 + 3 K^2 S2 ec_{1,0}^2 - 2 K^6 bc_{1,0}^2 \lambda 2 + K^8 bc_{1,0}^2 \lambda 2 + bc_{1,0}^2 K^4 \lambda 2 - S2 \lambda 2 ec_{1,0}^2 \\ & + 4 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2 + 12 K^8 \lambda 2^2 \left(\frac{d}{dt} M_{2,0}(t) \right) - 12 K^8 \lambda 2^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \\ & + 12 K^8 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) + 12 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2^2 + 4 K^4 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2^2 \\ & - 12 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda 2^2 K^4 - 4 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2^2 + 4 K^4 \lambda I \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) \\ & + 12 K^8 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda I \lambda 2 - K^{10} SI S2 \lambda 2 ac_{1,0}^2 + K^8 SI S2 \lambda 2 ac_{1,0}^2 + K^6 SI S2 \lambda 2 ac_{1,0}^2 \\ & - K^4 SI S2 \lambda 2 ac_{1,0}^2 + K^{10} SI S2 ac_{1,0}^2 + 3 K^6 SI S2 ac_{1,0}^2 + K^{10} S2 \lambda 2 cc_{1,0}^2 + K^2 S2 \lambda 2 \\ & ec_{1,0}^2 - K^8 S2 ec_{1,0}^2 \lambda 2 - 3 K^6 S2 cc_{1,0}^2 \lambda 2 + K^6 S2 ec_{1,0}^2 \lambda 2 + 2 S2 cc_{1,0}^2 K^4 \lambda 2 - 3 K^8 SI S2 \\ & ac_{1,0}^2) / ((K^2 - 1) K^6 (K^4 \lambda I \lambda 2 - K^4 \lambda I - K^4 \lambda 2 + K^4 + 2 K^2 \lambda I - K^2 \lambda 2 - \lambda I \lambda 2 - \lambda I \\ & - \lambda 2 - 1) \lambda 2) : \end{aligned}$$

$$> C_{2,0} := \frac{1}{4} \left(3 K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda I \lambda 2 + K^6 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda I \lambda 2 - 3 K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 \right)$$

$$\begin{aligned}
& -K^6 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l - K^6 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda 2 + K^6 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \\
& -7 K^4 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l \lambda 2 + 3 K^4 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l + 3 K^4 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda 2 \\
& - \left(\frac{d}{dt} L_{c_2,0}(t) \right) K^4 - 3 K^2 \left(\frac{d}{dt} M_{c_2,0}(t) \right) \lambda l \lambda 2 + 5 K^2 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l \lambda 2 \\
& - 3 K^2 \left(\frac{d}{dt} M_{c_2,0}(t) \right) \lambda 2 - 3 K^2 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l + 3 K^2 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda 2 \\
& - K^2 \left(\frac{d}{dt} L_{c_2,0}(t) \right) + \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l \lambda 2 + \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l + \lambda 2 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \\
& + \frac{d}{dt} L_{c_2,0}(t) \Big/ \left(K^6 \lambda l \lambda 2 - K^6 \lambda l - K^6 \lambda 2 + K^6 - K^4 \lambda l \lambda 2 + 3 K^4 \lambda l - K^4 - K^2 \lambda l \lambda 2 \right. \\
& \left. - 3 K^2 \lambda l - K^2 + \lambda l \lambda 2 + \lambda l + \lambda 2 + 1 \right) :
\end{aligned}$$

$$\begin{aligned}
> C_{c_2,0} := & -\frac{1}{16} \left(12 K^4 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) - 4 \left(\frac{d}{dt} L_{2,0}(t) \right) K^4 - 12 K^8 \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) \right. \\
& - 12 K^4 \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) + 4 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda 2 - K^2 \lambda l + 3 K^4 \lambda l - 3 K^6 \lambda l \\
& - K^4 S l S 2 a c_{1,0}^2 + K^8 b c_{1,0}^2 - K^6 b c_{1,0}^2 + K^2 b c_{1,0}^2 - K^4 b c_{1,0}^2 - 28 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 \\
& + 20 K^4 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 + 4 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 + 4 K^8 \left(\frac{d}{dt} L_{2,0}(t) \right) \\
& - 4 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) - S 2 e c_{1,0}^2 + 2 K^8 S 2 c c_{1,0}^2 - 3 K^6 S 2 c c_{1,0}^2 + K^6 S 2 e c_{1,0}^2 + K^2 S 2 \\
& e c_{1,0}^2 - K^8 S 2 e c_{1,0}^2 + K^2 S 2 c c_{1,0}^2 - K^8 \lambda l b c_{1,0}^2 + 3 K^6 \lambda l b c_{1,0}^2 - 3 K^4 \lambda l b c_{1,0}^2 + K^2 \lambda l \\
& b c_{1,0}^2 + 12 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l - 12 K^4 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l + 4 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \\
& - 4 K^8 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l + 12 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda 2 - K^8 + 4 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) - K^2 \\
& + K^8 \lambda l - 4 K^8 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) + 4 K^8 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 \\
& - 12 K^4 \lambda l \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) + K^6 + K^4 + 12 K^8 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2 + K^2 S 2 \lambda l c c_{1,0}^2 \\
& - K^8 S 2 \lambda l c c_{1,0}^2 + K^8 S 2 \lambda l e c_{1,0}^2 + 3 K^6 S 2 \lambda l c c_{1,0}^2 - 3 K^6 S 2 \lambda l e c_{1,0}^2 - 3 K^4 S 2 \lambda l c c_{1,0}^2 \\
& + 3 K^4 S 2 \lambda l e c_{1,0}^2 - K^2 S 2 \lambda l e c_{1,0}^2 + 2 K^6 S l S 2 a c_{1,0}^2 - K^8 S l S 2 a c_{1,0}^2 \Big/ \left((K^2 \right. \\
& \left. - 1) (K^4 \lambda l \lambda 2 - K^4 \lambda l - K^4 \lambda 2 + K^4 + 2 K^2 \lambda l - K^2 \lambda 2 - \lambda l \lambda 2 - \lambda l - \lambda 2 - 1) K^2 \right) :
\end{aligned}$$

$$\begin{aligned}
> E_{2,0} := & -\frac{3}{4} \left(K^6 \left(\frac{d}{dt} M_{c_2,0}(t) \right) \lambda l \lambda 2 + K^6 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l \lambda 2 - K^6 \left(\frac{d}{dt} M_{c_2,0}(t) \right) \lambda 2 \right. \\
& - K^6 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l - K^6 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda 2 + K^6 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \\
& - 3 K^4 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l \lambda 2 + 3 K^4 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l + K^4 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda 2 \\
& - \left(\frac{d}{dt} L_{c_2,0}(t) \right) K^4 - K^2 \left(\frac{d}{dt} M_{c_2,0}(t) \right) \lambda l \lambda 2 + K^2 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l \lambda 2 \\
& - K^2 \left(\frac{d}{dt} M_{c_2,0}(t) \right) \lambda 2 - 3 K^2 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda l + K^2 \left(\frac{d}{dt} L_{c_2,0}(t) \right) \lambda 2
\end{aligned}$$

$$-K^2 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) + \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda l \lambda 2 + \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda l + \lambda 2 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) + \frac{d}{dt} L_{c_{2,0}}(t) \Bigg/ (K^6 \lambda l \lambda 2 - K^6 \lambda l - K^6 \lambda 2 + K^6 - K^4 \lambda l \lambda 2 + 3 K^4 \lambda l - K^4 - K^2 \lambda l \lambda 2 - 3 K^2 \lambda l - K^2 + \lambda l \lambda 2 + \lambda l + \lambda 2 + 1) :$$

$$\begin{aligned} > Ec_{2,0} := \frac{1}{16} \left(12 K^4 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) - 12 \left(\frac{d}{dt} L_{2,0}(t) \right) K^4 - 12 K^8 \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) \right. \\ & - 12 K^4 \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) + 12 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda 2 - K^2 \lambda l + 3 K^4 \lambda l - 3 K^6 \lambda l \\ & - K^4 S l S 2 a c_{1,0}^2 + K^8 b c_{1,0}^2 - K^6 b c_{1,0}^2 + K^2 b c_{1,0}^2 - K^4 b c_{1,0}^2 - 36 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 \\ & + 12 K^4 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 + 12 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 + 12 K^8 \left(\frac{d}{dt} L_{2,0}(t) \right) \\ & - 12 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) - S 2 e c_{1,0}^2 + 2 K^8 S 2 c c_{1,0}^2 - 3 K^6 S 2 c c_{1,0}^2 + K^6 S 2 e c_{1,0}^2 + K^2 S 2 \\ & e c_{1,0}^2 - K^8 S 2 e c_{1,0}^2 + K^2 S 2 c c_{1,0}^2 - K^8 \lambda l b c_{1,0}^2 + 3 K^6 \lambda l b c_{1,0}^2 - 3 K^4 \lambda l b c_{1,0}^2 + K^2 \lambda l \\ & b c_{1,0}^2 + 36 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l - 36 K^4 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l + 12 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \\ & - 12 K^8 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l + 12 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda 2 - K^8 + 12 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) - K^2 \\ & + K^8 \lambda l - 12 K^8 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) + 12 K^8 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 \\ & - 12 K^4 \lambda l \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) + K^6 + K^4 + 12 K^8 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2 + K^2 S 2 \lambda l c c_{1,0}^2 \\ & - K^8 S 2 \lambda l c c_{1,0}^2 + K^8 S 2 \lambda l e c_{1,0}^2 + 3 K^6 S 2 \lambda l c c_{1,0}^2 - 3 K^6 S 2 \lambda l e c_{1,0}^2 - 3 K^4 S 2 \lambda l c c_{1,0}^2 \\ & + 3 K^4 S 2 \lambda l e c_{1,0}^2 - K^2 S 2 \lambda l e c_{1,0}^2 + 2 K^6 S l S 2 a c_{1,0}^2 - K^8 S l S 2 a c_{1,0}^2 \Bigg/ ((K^2 \\ & - 1) (K^4 \lambda l \lambda 2 - K^4 \lambda l - K^4 \lambda 2 + K^4 + 2 K^2 \lambda l - K^2 \lambda 2 - \lambda l \lambda 2 - \lambda l - \lambda 2 - 1) K^2) : \end{aligned}$$

$$\begin{aligned} > F_{2,0} := -\frac{3}{4} \left(K^8 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \lambda l \lambda 2 - K^8 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \lambda l - K^8 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \lambda 2 \right. \\ & + K^8 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) - 2 K^6 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda l \lambda 2 + 2 K^6 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda l \\ & + K^6 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda 2 - K^6 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) + K^4 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda l \lambda 2 \\ & - K^4 \lambda l \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) - K^4 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda l - \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) K^4 \\ & + K^2 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \lambda l \lambda 2 + 2 K^2 \lambda l \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) + K^2 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \lambda 2 \\ & + 2 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) K^2 - \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda l \lambda 2 - \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda l - \lambda 2 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \\ & - \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \Bigg/ ((K^2 - 1) (K^6 \lambda l \lambda 2 - K^6 \lambda l - K^6 \lambda 2 + K^6 - K^4 \lambda l \lambda 2 + 3 K^4 \lambda l \\ & - K^4 - K^2 \lambda l \lambda 2 - 3 K^2 \lambda l - K^2 + \lambda l \lambda 2 + \lambda l + \lambda 2 + 1)) : \end{aligned}$$

$$> F_{c_{2,0}} := \frac{1}{16} \left(-12 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2 + K^8 \lambda 2 + 24 K^4 \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) \right)$$

$$\begin{aligned}
& -12 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda 2 - 12 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2 - K^2 \lambda 2 - 2 K^4 S2 cc_{1,0}^2 + 2 K^4 SI S2 \\
& ac_{1,0}^2 + 12 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2^2 - 12 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 \\
& - 12 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2^2 - 12 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 + 3 K^6 \lambda l \lambda 2 + 2 S2 ec_{1,0}^2 \\
& + 12 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2^2 - 12 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2 \\
& + 12 K^4 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2^2 - K^{10} S2 cc_{1,0}^2 + 3 K^6 S2 cc_{1,0}^2 + K^6 S2 ec_{1,0}^2 - 3 K^2 S2 ec_{1,0}^2 \\
& - K^8 bc_{1,0}^2 \lambda 2 + S2 \lambda 2 ec_{1,0}^2 + bc_{1,0}^2 K^2 \lambda 2 - 2 K^8 \lambda l \lambda 2 - K^2 \lambda l \lambda 2 \\
& - 12 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda 2^2 K^2 + 12 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2 + 12 K^8 \lambda 2^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \\
& - 12 K^8 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) + 12 K^4 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2^2 - 12 K^{10} \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2^2 \\
& - 24 K^8 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2^2 + 24 K^8 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 + 24 K^4 \lambda l \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) \\
& - K^{10} SI S2 \lambda 2 ac_{1,0}^2 + K^4 SI S2 \lambda 2 ac_{1,0}^2 + K^2 S2 \lambda l \lambda 2 cc_{1,0}^2 + 2 K^8 S2 \lambda l \lambda 2 cc_{1,0}^2 \\
& - 2 K^8 S2 \lambda l \lambda 2 ec_{1,0}^2 - 3 K^6 S2 \lambda l \lambda 2 cc_{1,0}^2 + 3 K^6 S2 \lambda l \lambda 2 ec_{1,0}^2 - K^2 S2 \lambda l \lambda 2 ec_{1,0}^2 \\
& + 2 K^8 \lambda l \lambda 2 bc_{1,0}^2 - 3 K^6 \lambda l \lambda 2 bc_{1,0}^2 + S2 cc_{1,0}^2 K^2 \lambda 2 - K^8 S2 cc_{1,0}^2 \lambda 2 + K^2 \lambda l \lambda 2 bc_{1,0}^2 \\
& + K^{10} SI S2 ac_{1,0}^2 - 3 K^6 SI S2 ac_{1,0}^2 + K^{10} S2 \lambda 2 cc_{1,0}^2 - K^2 S2 \lambda 2 ec_{1,0}^2 + K^8 S2 ec_{1,0}^2 \lambda 2 \\
& - K^6 S2 ec_{1,0}^2 \lambda 2 - S2 cc_{1,0}^2 K^4 \lambda 2 \Big) / \left(K^2 \lambda 2 (K^4 \lambda l \lambda 2 - K^4 \lambda l - K^4 \lambda 2 + K^4 + 2 K^2 \lambda l \right. \\
& \left. - K^2 \lambda 2 - \lambda l \lambda 2 - \lambda l - \lambda 2 - 1) (K^2 - 1)^2 \right) :
\end{aligned}$$

$$\begin{aligned}
> G_{2,0} &:= \frac{1}{4} \left(K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l \lambda 2 - K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l - K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 \right. \\
& + K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) + K^4 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l \lambda 2 - 3 K^4 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l \lambda 2 \\
& - 2 K^4 \lambda l \left(\frac{d}{dt} Mc_{2,0}(t) \right) + K^4 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 + 3 K^4 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l \\
& - 2 \left(\frac{d}{dt} Mc_{2,0}(t) \right) K^4 + 2 K^2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l \lambda 2 + 3 K^2 \lambda l \left(\frac{d}{dt} Mc_{2,0}(t) \right) \\
& - 2 K^2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l + K^2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda 2 + 3 \left(\frac{d}{dt} Mc_{2,0}(t) \right) K^2 \\
& - K^2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) - \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l \lambda 2 - \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l - \lambda 2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \\
& \left. - \left(\frac{d}{dt} Lc_{2,0}(t) \right) \right) / \left((K^2 - 1) (K^6 \lambda l \lambda 2 - K^6 \lambda l - K^6 \lambda 2 + K^6 - K^4 \lambda l \lambda 2 + 3 K^4 \lambda l \right. \\
& \left. - K^4 - K^2 \lambda l \lambda 2 - 3 K^2 \lambda l - K^2 + \lambda l \lambda 2 + \lambda l + \lambda 2 + 1) \right) :
\end{aligned}$$

$$> G_{c_{2,0}} := -\frac{1}{16} \left(-4 K^4 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) - 8 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2 + 4 K^8 \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) \right)$$

$$\begin{aligned}
& + 12 K^4 \lambda_2 \left(\frac{d}{dt} M_{2,0}(t) \right) - 4 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_2 - 8 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda_2 + K^4 \lambda_2 \\
& - K^2 \lambda_2 - K^4 S_2 c c_{1,0}^2 + K^4 S_1 S_2 a c_{1,0}^2 - 12 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_1 \lambda_2^2 \\
& + 12 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_1 \lambda_2 + 8 K^4 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_1 \lambda_2^2 - 8 K^4 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_1 \lambda_2 \\
& - 4 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_1 \lambda_2^2 - 4 K^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_1 \lambda_2 + 2 K^4 \lambda_1 \lambda_2 - K^6 \lambda_1 \lambda_2 + S_2 \\
& e c_{1,0}^2 + 4 K^8 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda_1 \lambda_2^2 + 4 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda_1 \lambda_2^2 - K^8 S_2 c c_{1,0}^2 + K^4 S_2 e c_{1,0}^2 \\
& + 2 K^6 S_2 c c_{1,0}^2 - 2 K^2 S_2 e c_{1,0}^2 - b c_{1,0}^2 K^4 \lambda_2 + b c_{1,0}^2 K^2 \lambda_2 - K^2 \lambda_1 \lambda_2 \\
& - 4 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_2^2 K^2 - 4 K^8 \lambda_2^2 \left(\frac{d}{dt} M_{2,0}(t) \right) + 4 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda_2^2 \\
& + 4 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_2^2 K^4 + 12 K^4 \lambda_1 \lambda_2 \left(\frac{d}{dt} M_{2,0}(t) \right) - 4 K^8 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda_1 \lambda_2 \\
& - 2 K^4 S_2 \lambda_1 \lambda_2 c c_{1,0}^2 + 2 K^4 S_2 \lambda_1 \lambda_2 e c_{1,0}^2 - K^8 S_1 S_2 \lambda_2 a c_{1,0}^2 + K^6 S_1 S_2 \lambda_2 a c_{1,0}^2 \\
& + K^2 S_2 \lambda_1 \lambda_2 c c_{1,0}^2 + K^6 S_2 \lambda_1 \lambda_2 c c_{1,0}^2 - K^6 S_2 \lambda_1 \lambda_2 e c_{1,0}^2 - K^2 S_2 \lambda_1 \lambda_2 e c_{1,0}^2 \\
& + K^6 \lambda_1 \lambda_2 b c_{1,0}^2 + S_2 c c_{1,0}^2 K^2 \lambda_2 + K^8 S_2 c c_{1,0}^2 \lambda_2 + K^2 \lambda_1 \lambda_2 b c_{1,0}^2 - 2 K^4 \lambda_1 \lambda_2 b c_{1,0}^2 \\
& - 2 K^6 S_1 S_2 a c_{1,0}^2 - K^6 S_2 c c_{1,0}^2 \lambda_2 - S_2 c c_{1,0}^2 K^4 \lambda_2 + K^8 S_1 S_2 a c_{1,0}^2 \Big) / \left(K^2 \lambda_2 (K^4 \lambda_1 \lambda_2 \right. \\
& \left. - K^4 \lambda_1 - K^4 \lambda_2 + K^4 + 2 K^2 \lambda_1 - K^2 \lambda_2 - \lambda_1 \lambda_2 - \lambda_1 - \lambda_2 - 1) (K^2 - 1)^2 \right) :
\end{aligned}$$

$$\begin{aligned}
> H_{2,0} := & \frac{1}{4} \left(\left(K^4 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda_1 \lambda_2 + 3 K^4 \lambda_1 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) - K^4 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda_1 \right. \right. \\
& \left. - K^4 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda_2 - 3 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) K^4 + \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) K^4 \right. \\
& \left. - K^2 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \lambda_1 \lambda_2 - 2 K^2 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda_1 \lambda_2 - 2 K^2 \lambda_1 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \right. \\
& \left. + K^2 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \lambda_2 - 2 K^2 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda_1 + K^2 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda_2 \right. \\
& \left. + 2 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) K^2 + K^2 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) - \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \lambda_1 \lambda_2 \right. \\
& \left. + 3 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda_1 \lambda_2 - \lambda_1 \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) - \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \lambda_2 \right. \\
& \left. + 3 \left(\frac{d}{dt} L_{c_{2,0}}(t) \right) \lambda_1 - \left(\frac{d}{dt} M_{c_{2,0}}(t) \right) \right) K^4 \Big) / \left((K^2 - 1) (K^6 \lambda_1 \lambda_2 - K^6 \lambda_1 - K^6 \lambda_2 \right. \\
& \left. + K^6 - K^4 \lambda_1 \lambda_2 + 3 K^4 \lambda_1 - K^4 - K^2 \lambda_1 \lambda_2 - 3 K^2 \lambda_1 - K^2 + \lambda_1 \lambda_2 + \lambda_1 + \lambda_2 + 1) \right) :
\end{aligned}$$

$$\begin{aligned}
> H_{c_{2,0}} := & -\frac{1}{16} \left(-8 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda_1 \lambda_2 - K^8 \lambda_2 - 12 K^8 \lambda_2 \left(\frac{d}{dt} M_{2,0}(t) \right) \right. \\
& \left. - 4 K^4 \lambda_2 \left(\frac{d}{dt} M_{2,0}(t) \right) + 8 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda_2 + K^6 \lambda_2 + K^4 S_2 c c_{1,0}^2 - K^4 S_1 S_2 a c_{1,0}^2 \right. \\
& \left. - 8 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_1 \lambda_2^2 - 8 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_1 \lambda_2 + 12 K^4 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda_1 \lambda_2^2 \right.
\end{aligned}$$

$$\begin{aligned}
& + 12 K^4 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 + K^4 \lambda l \lambda 2 - 2 K^6 \lambda l \lambda 2 - S2 ec_{1,0}^2 \\
& - 4 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2^2 - 4 K^4 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2^2 + K^8 S2 cc_{1,0}^2 - K^4 S2 ec_{1,0}^2 \\
& - 2 K^6 S2 cc_{1,0}^2 + 2 K^2 S2 ec_{1,0}^2 - K^6 bc_{1,0}^2 \lambda 2 + K^8 bc_{1,0}^2 \lambda 2 - S2 \lambda 2 ec_{1,0}^2 \\
& + 4 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda 2^2 + 4 K^6 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda 2 + K^8 \lambda l \lambda 2 - 4 K^8 \lambda 2^2 \left(\frac{d}{dt} L_{2,0}(t) \right) \\
& + 4 K^8 \lambda 2 \left(\frac{d}{dt} L_{2,0}(t) \right) + 4 K^6 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2^2 - 4 K^4 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda 2^2 \\
& + 4 K^8 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2^2 - 4 K^8 \left(\frac{d}{dt} L_{2,0}(t) \right) \lambda l \lambda 2 - 4 K^4 \lambda l \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) \\
& + 12 K^8 \left(\frac{d}{dt} M_{2,0}(t) \right) \lambda l \lambda 2 - K^4 S2 \lambda l \lambda 2 cc_{1,0}^2 + K^4 S2 \lambda l \lambda 2 ec_{1,0}^2 + K^6 S1 S2 \lambda 2 ac_{1,0}^2 \\
& - K^4 S1 S2 \lambda 2 ac_{1,0}^2 - K^8 S2 \lambda l \lambda 2 cc_{1,0}^2 + K^8 S2 \lambda l \lambda 2 ec_{1,0}^2 + 2 K^6 S2 \lambda l \lambda 2 cc_{1,0}^2 \\
& - 2 K^6 S2 \lambda l \lambda 2 ec_{1,0}^2 - K^8 \lambda l \lambda 2 bc_{1,0}^2 + 2 K^6 \lambda l \lambda 2 bc_{1,0}^2 + K^8 S2 cc_{1,0}^2 \lambda 2 - K^4 \lambda l \lambda 2 bc_{1,0}^2 \\
& + 2 K^6 S1 S2 ac_{1,0}^2 + K^2 S2 \lambda 2 ec_{1,0}^2 - K^8 S2 ec_{1,0}^2 \lambda 2 - 2 K^6 S2 cc_{1,0}^2 \lambda 2 + K^6 S2 ec_{1,0}^2 \lambda 2 \\
& + S2 cc_{1,0}^2 K^4 \lambda 2 - K^8 S1 S2 ac_{1,0}^2 \Big) / \Big(\lambda 2 (K^4 \lambda l \lambda 2 - K^4 \lambda l - K^4 \lambda 2 + K^4 + 2 K^2 \lambda l \\
& - K^2 \lambda 2 - \lambda l \lambda 2 - \lambda l - \lambda 2 - 1) (K^2 - 1)^2 \Big) :
\end{aligned}$$

$$\begin{aligned}
> J_{2,0} := & \frac{3}{4} \left(K^2 \left(K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l \lambda 2 - K^6 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l \lambda 2 \right. \right. \\
& - 2 K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l - K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 + K^6 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l \\
& + K^6 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda 2 + 2 K^6 \left(\frac{d}{dt} Mc_{2,0}(t) \right) - K^6 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \\
& + K^4 \lambda l \left(\frac{d}{dt} Mc_{2,0}(t) \right) - \left(\frac{d}{dt} Mc_{2,0}(t) \right) K^4 + K^2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l \lambda 2 \\
& + K^2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l + \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda l \lambda 2 - 2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l \lambda 2 \\
& + \lambda l \left(\frac{d}{dt} Mc_{2,0}(t) \right) + \left(\frac{d}{dt} Mc_{2,0}(t) \right) \lambda 2 - 2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \lambda l - \lambda 2 \left(\frac{d}{dt} Lc_{2,0}(t) \right) \\
& + \frac{d}{dt} Mc_{2,0}(t) - \left. \left(\frac{d}{dt} Lc_{2,0}(t) \right) \right) \Big) / \Big(((K^2 - 1) (K^6 \lambda l \lambda 2 - K^6 \lambda l - K^6 \lambda 2 + K^6 \\
& - K^4 \lambda l \lambda 2 + 3 K^4 \lambda l - K^4 - K^2 \lambda l \lambda 2 - 3 K^2 \lambda l - K^2 + \lambda l \lambda 2 + \lambda l + \lambda 2 + 1)) \Big) :
\end{aligned}$$

$$\begin{aligned}
> J_{c_{2,0}} := & \frac{1}{16} \left(12 K^4 \lambda 2 ((\lambda 2 - 1) (\lambda l - 1) K^6 - \lambda l (\lambda 2 + 1) K^2 + (2 \lambda l + 1) \lambda 2 + 2 \lambda l \right. \\
& + 1) \left(\frac{d}{dt} L_{2,0}(t) \right) - 12 K^4 ((\lambda 2 - 2) (\lambda l - 1) K^6 + (\lambda l - 1) K^4 + (\lambda 2 + 1) (\lambda l \\
& + 1)) \lambda 2 \left(\frac{d}{dt} M_{2,0}(t) \right) + (K - 1) \left(((((-cc_{1,0}^2 + ec_{1,0}^2) S2 - bc_{1,0}^2 + 1) \lambda l + (S1 \right. \\
& ac_{1,0}^2 - ec_{1,0}^2) S2 + bc_{1,0}^2 - 1) \lambda 2 - 2 S2 (S1 ac_{1,0}^2 - cc_{1,0}^2)) K^8 + ((((-cc_{1,0}^2 +
\end{aligned}$$

$$ec_{1,0}^2) S2 - bc_{1,0}^2 + 1) \lambda l + (S1 ac_{1,0}^2 - ec_{1,0}^2) S2 + bc_{1,0}^2 - 1) \lambda 2 + S2 (S1 ac_{1,0}^2 - cc_{1,0}^2) K^6 + \left(\left((2 cc_{1,0}^2 - 2 ec_{1,0}^2) S2 + 2 bc_{1,0}^2 - 2 \right) \lambda l + S1 S2 ac_{1,0}^2 + bc_{1,0}^2 - 1 \right) \lambda 2 - 2 \left(-\frac{1}{2} S1 ac_{1,0}^2 + ec_{1,0}^2 + \frac{1}{2} cc_{1,0}^2 \right) S2 \right) K^4 + S2 ec_{1,0}^2 (\lambda 2 + 1) K^2 + S2 ec_{1,0}^2 (\lambda 2 + 1) \left(K + 1 \right) \left(K^2 (K - 1)^2 \lambda 2 ((\lambda 2 - 1) (\lambda l - 1) K^4 + (2 \lambda l - \lambda 2) K^2 - (\lambda 2 + 1) (\lambda l + 1)) (K + 1)^2 \right) :$$

> ##(Ca)coefficient of potential function##`

$$\begin{aligned} > a_{1,1} := \frac{1}{2} \left(2 K^4 Mc_{2,0}(t) R1 R2 ac_{1,0} - 2 K^4 Mc_{2,0}(t) R1 ac_{1,0} + K^4 Mc_{2,0}(t) R2 ac_{1,0} \right. \\ & - 3 K^4 Mc_{2,0}(t) R2 cc_{1,0} - K^4 Mc_{2,0}(t) ac_{1,0} + 3 K^4 Mc_{2,0}(t) cc_{1,0} \\ & + 2 K^2 Mc_{2,0}(t) R1 R2 ac_{1,0} + 4 Lc_{2,0}(t) R2 cc_{1,0} K^2 + 2 K^2 Mc_{2,0}(t) R1 ac_{1,0} \\ & - K^2 Mc_{2,0}(t) R2 ac_{1,0} - K^2 Mc_{2,0}(t) R2 cc_{1,0} + K^2 Mc_{2,0}(t) R2 ec_{1,0} \\ & - 2 Lc_{2,0}(t) bc_{1,0} K^2 - 2 Lc_{2,0}(t) cc_{1,0} K^2 + 2 Lc_{2,0}(t) ec_{1,0} K^2 - K^2 Mc_{2,0}(t) ac_{1,0} \\ & - K^2 Mc_{2,0}(t) cc_{1,0} - K^2 Mc_{2,0}(t) ec_{1,0} + 2 Lc_{2,0}(t) K^2 - Mc_{2,0}(t) R2 ec_{1,0} \\ & \left. - Mc_{2,0}(t) ec_{1,0} \right) / \left((K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1) K^2 \right) : \end{aligned}$$

$$\begin{aligned} > ac_{1,1} := -\frac{1}{2} \left(2 K^4 M_{2,0}(t) R1 R2 ac_{1,0} - 2 K^4 M_{2,0}(t) R1 ac_{1,0} + K^4 M_{2,0}(t) R2 ac_{1,0} \right. \\ & - 3 K^4 M_{2,0}(t) R2 cc_{1,0} - K^4 M_{2,0}(t) ac_{1,0} + 3 K^4 M_{2,0}(t) cc_{1,0} + 2 K^2 M_{2,0}(t) R1 R2 ac_{1,0} \\ & + 4 L_{2,0}(t) R2 cc_{1,0} K^2 + 2 K^2 M_{2,0}(t) R1 ac_{1,0} - K^2 M_{2,0}(t) R2 ac_{1,0} \\ & - K^2 M_{2,0}(t) R2 cc_{1,0} + K^2 M_{2,0}(t) R2 ec_{1,0} - 2 L_{2,0}(t) bc_{1,0} K^2 - 2 L_{2,0}(t) cc_{1,0} K^2 \\ & + 2 L_{2,0}(t) ec_{1,0} K^2 - K^2 M_{2,0}(t) ac_{1,0} - K^2 M_{2,0}(t) cc_{1,0} - K^2 M_{2,0}(t) ec_{1,0} \\ & \left. + 2 L_{2,0}(t) K^2 - M_{2,0}(t) R2 ec_{1,0} - M_{2,0}(t) ec_{1,0} \right) / \left((K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1) K^2 \right) : \end{aligned}$$

$$\begin{aligned} > b_{1,1} := \frac{1}{2} \left(K^2 Lc_{2,0}(t) R1 R2 bc_{1,0} - K^2 Lc_{2,0}(t) R1 R2 cc_{1,0} - K^2 Lc_{2,0}(t) R1 R2 ec_{1,0} \right. \\ & + 6 K^2 Mc_{2,0}(t) R1 R2 ac_{1,0} - 2 K^2 Mc_{2,0}(t) R1 R2 cc_{1,0} + K^2 Lc_{2,0}(t) R1 R2 \\ & - K^2 Lc_{2,0}(t) R2 bc_{1,0} + Lc_{2,0}(t) R2 cc_{1,0} K^2 + K^2 Lc_{2,0}(t) R2 ec_{1,0} \\ & - 4 K^2 Mc_{2,0}(t) R2 cc_{1,0} - 2 K^2 Lc_{2,0}(t) R1 - K^2 Lc_{2,0}(t) R2 + Lc_{2,0}(t) R1 R2 bc_{1,0} \\ & + 3 Lc_{2,0}(t) R1 R2 cc_{1,0} - Lc_{2,0}(t) R1 R2 ec_{1,0} + 2 Mc_{2,0}(t) R1 R2 ec_{1,0} + 2 Lc_{2,0}(t) K^2 \\ & + Lc_{2,0}(t) R1 R2 + Lc_{2,0}(t) R2 bc_{1,0} + 3 Lc_{2,0}(t) R2 cc_{1,0} - Lc_{2,0}(t) R2 ec_{1,0} \\ & \left. + 2 Lc_{2,0}(t) R1 + Lc_{2,0}(t) R2 + 2 Lc_{2,0}(t) \right) / \left(K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1 \right) : \end{aligned}$$

$$\begin{aligned} > bc_{1,1} := -\frac{1}{2} \left(K^2 L_{2,0}(t) R1 R2 bc_{1,0} - K^2 L_{2,0}(t) R1 R2 cc_{1,0} - K^2 L_{2,0}(t) R1 R2 ec_{1,0} \right. \\ & + 6 K^2 M_{2,0}(t) R1 R2 ac_{1,0} - 2 K^2 M_{2,0}(t) R1 R2 cc_{1,0} + K^2 L_{2,0}(t) R1 R2 \\ & - K^2 L_{2,0}(t) R2 bc_{1,0} + L_{2,0}(t) R2 cc_{1,0} K^2 + K^2 L_{2,0}(t) R2 ec_{1,0} - 4 K^2 M_{2,0}(t) R2 cc_{1,0} \\ & \left. - 4 K^2 M_{2,0}(t) R2 cc_{1,0} \right) : \end{aligned}$$

$$\begin{aligned}
& -2 K^2 L_{2,0}(t) R1 - K^2 L_{2,0}(t) R2 + L_{2,0}(t) R1 R2 bc_{1,0} + 3 L_{2,0}(t) R1 R2 cc_{1,0} \\
& - L_{2,0}(t) R1 R2 ec_{1,0} + 2 M_{2,0}(t) R1 R2 ec_{1,0} + 2 L_{2,0}(t) K^2 + L_{2,0}(t) R1 R2 \\
& + L_{2,0}(t) R2 bc_{1,0} + 3 L_{2,0}(t) R2 cc_{1,0} - L_{2,0}(t) R2 ec_{1,0} + 2 L_{2,0}(t) R1 + L_{2,0}(t) R2 \\
& + 2 L_{2,0}(t) \Big) / \left(K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1 \right) :
\end{aligned}$$

$$\begin{aligned}
> c_{1,1} := & \frac{1}{2} \left(3 K^2 Mc_{2,0}(t) R1 R2 ac_{1,0} - K^2 Mc_{2,0}(t) R1 R2 cc_{1,0} - 3 K^2 Mc_{2,0}(t) R1 ac_{1,0} \right. \\
& + K^2 Mc_{2,0}(t) R1 cc_{1,0} - 2 K^2 Mc_{2,0}(t) R2 cc_{1,0} + 2 K^2 Mc_{2,0}(t) cc_{1,0} \\
& + 2 Lc_{2,0}(t) R1 R2 cc_{1,0} + Mc_{2,0}(t) R1 R2 ec_{1,0} - Lc_{2,0}(t) R1 bc_{1,0} - Lc_{2,0}(t) R1 cc_{1,0} \\
& + Lc_{2,0}(t) R1 ec_{1,0} + 2 Lc_{2,0}(t) R2 cc_{1,0} - Mc_{2,0}(t) R1 ec_{1,0} + Lc_{2,0}(t) R1 \\
& - Lc_{2,0}(t) bc_{1,0} - Lc_{2,0}(t) cc_{1,0} + Lc_{2,0}(t) ec_{1,0} + Lc_{2,0}(t) \Big) / \left(K^2 R1 R2 - K^2 R1 \right. \\
& \left. - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1 \right) :
\end{aligned}$$

$$\begin{aligned}
> e_{1,1} := & -\frac{1}{2} \left(2 K^2 Lc_{2,0}(t) R1 R2 cc_{1,0} - 3 K^2 Mc_{2,0}(t) R1 R2 ac_{1,0} + K^2 Mc_{2,0}(t) R1 R2 cc_{1,0} \right. \\
& - K^2 Lc_{2,0}(t) R1 bc_{1,0} - K^2 Lc_{2,0}(t) R1 cc_{1,0} + K^2 Lc_{2,0}(t) R1 ec_{1,0} \\
& - 2 Lc_{2,0}(t) R2 cc_{1,0} K^2 - 3 K^2 Mc_{2,0}(t) R1 ac_{1,0} + K^2 Mc_{2,0}(t) R1 cc_{1,0} \\
& + 2 K^2 Mc_{2,0}(t) R2 cc_{1,0} + K^2 Lc_{2,0}(t) R1 + Lc_{2,0}(t) bc_{1,0} K^2 + Lc_{2,0}(t) cc_{1,0} K^2 \\
& - Lc_{2,0}(t) ec_{1,0} K^2 + 2 K^2 Mc_{2,0}(t) cc_{1,0} - Mc_{2,0}(t) R1 R2 ec_{1,0} - Lc_{2,0}(t) K^2 \\
& \left. - Mc_{2,0}(t) R1 ec_{1,0} \right) / \left(K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1 \right) :
\end{aligned}$$

$$\begin{aligned}
> cc_{1,1} := & -\frac{1}{2} \left(3 K^2 M_{2,0}(t) R1 R2 ac_{1,0} - K^2 M_{2,0}(t) R1 R2 cc_{1,0} - 3 K^2 M_{2,0}(t) R1 ac_{1,0} \right. \\
& + K^2 M_{2,0}(t) R1 cc_{1,0} - 2 K^2 M_{2,0}(t) R2 cc_{1,0} + 2 K^2 M_{2,0}(t) cc_{1,0} + 2 L_{2,0}(t) R1 R2 cc_{1,0} \\
& + M_{2,0}(t) R1 R2 ec_{1,0} - L_{2,0}(t) R1 bc_{1,0} - L_{2,0}(t) R1 cc_{1,0} + L_{2,0}(t) R1 ec_{1,0} \\
& + 2 L_{2,0}(t) R2 cc_{1,0} - M_{2,0}(t) R1 ec_{1,0} + L_{2,0}(t) R1 - L_{2,0}(t) bc_{1,0} - L_{2,0}(t) cc_{1,0} \\
& \left. + L_{2,0}(t) ec_{1,0} + L_{2,0}(t) \right) / \left(K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 + R1 R2 + R1 + R2 + 1 \right) :
\end{aligned}$$

$$\begin{aligned}
> ec_{1,1} := & \frac{1}{2} \left(2 K^2 L_{2,0}(t) R1 R2 cc_{1,0} - 3 K^2 M_{2,0}(t) R1 R2 ac_{1,0} + K^2 M_{2,0}(t) R1 R2 cc_{1,0} \right. \\
& - K^2 L_{2,0}(t) R1 bc_{1,0} - K^2 L_{2,0}(t) R1 cc_{1,0} + K^2 L_{2,0}(t) R1 ec_{1,0} - 2 L_{2,0}(t) R2 cc_{1,0} K^2 \\
& - 3 K^2 M_{2,0}(t) R1 ac_{1,0} + K^2 M_{2,0}(t) R1 cc_{1,0} + 2 K^2 M_{2,0}(t) R2 cc_{1,0} + K^2 L_{2,0}(t) R1 \\
& + L_{2,0}(t) bc_{1,0} K^2 + L_{2,0}(t) cc_{1,0} K^2 - L_{2,0}(t) ec_{1,0} K^2 + 2 K^2 M_{2,0}(t) cc_{1,0} \\
& \left. - M_{2,0}(t) R1 R2 ec_{1,0} - L_{2,0}(t) K^2 - M_{2,0}(t) R1 ec_{1,0} \right) / \left(K^2 R1 R2 - K^2 R1 - K^2 R2 + K^2 \right. \\
& \left. + R1 R2 + R1 + R2 + 1 \right) :
\end{aligned}$$

> ##(Ca)coefficient of streamfunction##`#`

$$\begin{aligned}
> A_{2,1} := & \frac{1}{8} \left(-6 K^4 \lambda_2 \left((\lambda_2 - 1) (\lambda_1 - 1) K^6 - (\lambda_2 - 3) (\lambda_1 - 1) K^4 + ((-\lambda_1 + 1) \lambda_2 \right. \right. \\
& \left. \left. - 3 \lambda_1 + 1) K^2 + (1 + \lambda_2) (\lambda_1 + 1) \right) \left(\frac{d}{dt} Mc_{2,1}(t) \right) + 6 \left((\lambda_2 - 1) K^4 + \lambda_2 \right. \right. \\
& \left. \left. + 1) K^4 \lambda_2 \left(\frac{d}{dt} Lc_{2,1}(t) \right) + (K - 1)^2 \left(-4 ec_{1,0} cc_{1,0} K^2 \left((\lambda_2 - 1) K^2 + \lambda_2 \right. \right. \right. \right.
\end{aligned}$$

$$+ 1) S2 Mc_{2,0}(t) - 4 K^4 \lambda 2 (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) Lc_{2,0}(t) + S2 (\lambda 2 - 1) ($$

$$- S1 a_{1,1} ac_{1,0} + c_{1,1} cc_{1,0}) K^6 + ((-S1 a_{1,1} ac_{1,0} + 2 c_{1,1} cc_{1,0} - e_{1,1} ec_{1,0}) S2$$

$$+ b_{1,1} bc_{1,0}) \lambda 2 + S2 (-S1 a_{1,1} ac_{1,0} + c_{1,1} cc_{1,0}) K^4 - S2 e_{1,1} ec_{1,0} (\lambda 2 - 1) K^2$$

$$- S2 e_{1,1} ec_{1,0} (1 + \lambda 2)) (K + 1)^2) / ((K - 1) K^4 ((\lambda 2 - 1) (\lambda 1 - 1) K^4 + (2 \lambda 1$$

$$- \lambda 2) K^2 - (1 + \lambda 2) (\lambda 1 + 1)) (K + 1) \lambda 2) :$$

$$> Ac_{2,1} := \frac{1}{8} \left(6 K^4 \lambda 2 ((\lambda 2 - 1) (\lambda 1 - 1) K^6 - (\lambda 2 - 3) (\lambda 1 - 1) K^4 + ((-\lambda 1 + 1) \lambda 2$$

$$- 3 \lambda 1 + 1) K^2 + (1 + \lambda 2) (\lambda 1 + 1)) \left(\frac{d}{dt} M_{2,1}(t) \right) - 6 ((\lambda 2 - 1) K^4 + \lambda 2$$

$$+ 1) K^4 \lambda 2 \left(\frac{d}{dt} L_{2,1}(t) \right) - (K - 1)^2 (K + 1)^2 (-4 cc_{1,0} K^2 ((\lambda 2 - 1) K^2 + \lambda 2$$

$$+ 1) S2 ec_{1,0} M_{2,0}(t) - 4 K^4 \lambda 2 (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{2,0}(t) + S2 (\lambda 2$$

$$- 1) (S1 ac_{1,0} ac_{1,1} - cc_{1,0} cc_{1,1}) K^6 + ((S1 ac_{1,0} ac_{1,1} - 2 cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1}) S2$$

$$- bc_{1,0} bc_{1,1}) \lambda 2 + S2 (S1 ac_{1,0} ac_{1,1} - cc_{1,0} cc_{1,1}) K^4 + S2 ec_{1,0} ec_{1,1} (\lambda 2 - 1) K^2$$

$$+ S2 ec_{1,0} ec_{1,1} (1 + \lambda 2)) / ((K - 1) K^4 ((\lambda 2 - 1) (\lambda 1 - 1) K^4 + (2 \lambda 1 - \lambda 2) K^2$$

$$- (1 + \lambda 2) (\lambda 1 + 1)) (K + 1) \lambda 2) :$$

$$> B_{2,1} := \frac{1}{8} \left(2 ((\lambda 2 - 1) (\lambda 1 - 1) K^6 + ((-\lambda 1 + 3) \lambda 2 + 3 \lambda 1 - 7) K^4 + ((-\lambda 1 + 3) \lambda 2$$

$$- 3 \lambda 1 + 5) K^2 + (1 + \lambda 2) (\lambda 1 + 1)) K^4 \lambda 2 \left(\frac{d}{dt} Mc_{2,1}(t) \right) - 6 ((\lambda 2 - 1) K^4 + \lambda 2$$

$$+ 1) K^4 \lambda 2 \left(\frac{d}{dt} Lc_{2,1}(t) \right) - (K - 1)^2 (-4 ec_{1,0} cc_{1,0} K^2 ((\lambda 2 - 1) K^2 + \lambda 2$$

$$+ 1) S2 Mc_{2,0}(t) - 4 K^4 \lambda 2 (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) Lc_{2,0}(t) + S2 (\lambda 2 - 1) ($$

$$- S1 a_{1,1} ac_{1,0} + c_{1,1} cc_{1,0}) K^6 + ((-S1 a_{1,1} ac_{1,0} + 2 c_{1,1} cc_{1,0} - e_{1,1} ec_{1,0}) S2$$

$$+ b_{1,1} bc_{1,0}) \lambda 2 + S2 (-S1 a_{1,1} ac_{1,0} + c_{1,1} cc_{1,0}) K^4 - S2 e_{1,1} ec_{1,0} (\lambda 2 - 1) K^2$$

$$- S2 e_{1,1} ec_{1,0} (1 + \lambda 2)) (K + 1)^2) / ((K - 1) K^6 ((\lambda 2 - 1) (\lambda 1 - 1) K^4 + (2 \lambda 1$$

$$- \lambda 2) K^2 - (1 + \lambda 2) (\lambda 1 + 1)) (K + 1) \lambda 2) :$$

$$> Bc_{2,1} := \frac{1}{8} \left(-2 ((\lambda 2 - 1) (\lambda 1 - 1) K^6 + ((-\lambda 1 + 3) \lambda 2 + 3 \lambda 1 - 7) K^4 + ((-\lambda 1 + 3) \lambda 2$$

$$- 3 \lambda 1 + 5) K^2 + (1 + \lambda 2) (\lambda 1 + 1)) K^4 \lambda 2 \left(\frac{d}{dt} M_{2,1}(t) \right) + 6 ((\lambda 2 - 1) K^4 + \lambda 2$$

$$+ 1) K^4 \lambda 2 \left(\frac{d}{dt} L_{2,1}(t) \right) + (K - 1)^2 (K + 1)^2 (-4 cc_{1,0} K^2 ((\lambda 2 - 1) K^2 + \lambda 2$$

$$+ 1) S2 ec_{1,0} M_{2,0}(t) - 4 K^4 \lambda 2 (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{2,0}(t) + S2 (\lambda 2$$

$$- 1) (S1 ac_{1,0} ac_{1,1} - cc_{1,0} cc_{1,1}) K^6 + ((S1 ac_{1,0} ac_{1,1} - 2 cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1}) S2$$

$$- bc_{1,0} bc_{1,1}) \lambda 2 + S2 (S1 ac_{1,0} ac_{1,1} - cc_{1,0} cc_{1,1}) K^4 + S2 ec_{1,0} ec_{1,1} (\lambda 2 - 1) K^2$$

$$+ S2 ec_{1,0} ec_{1,1} (1 + \lambda 2)) / ((K - 1) K^6 ((\lambda 2 - 1) (\lambda 1 - 1) K^4 + (2 \lambda 1 - \lambda 2) K^2$$

$$- (1 + \lambda 2) (\lambda 1 + 1)) (K + 1) \lambda 2) :$$

$$\begin{aligned}
> C_{2,1} := & \frac{1}{8} \left(2 K^2 ((\lambda_2 - 1) (\lambda_1 - 1) K^6 + ((-7 \lambda_2 + 3) \lambda_1 + 3 \lambda_2 - 1) K^4 + ((5 \lambda_2 - 3) \lambda_1 + 3 \lambda_2 - 1) K^2 + (1 + \lambda_2) (\lambda_1 + 1)) \left(\frac{d}{dt} L_{c_{2,1}}(t) \right) + 6 K^4 \lambda_2 ((\lambda_1 - 1) K^4 - \lambda_1 - 1) \left(\frac{d}{dt} M_{c_{2,1}}(t) \right) - 4 (K - 1)^2 (K + 1)^2 \left(((\lambda_1 - 1) K^2 - \lambda_1 - 1) K^2 (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{c_{2,0}}(t) - K^2 M_{c_{2,0}}(t) S2 cc_{1,0} ec_{1,0} + \left(\left(-\frac{1}{4} c_{1,1} cc_{1,0} + \frac{1}{4} e_{1,1} ec_{1,0} \right) S2 - \frac{1}{4} b_{1,1} bc_{1,0} \right) \lambda_1 + \left(-\frac{1}{4} S1 a_{1,1} ac_{1,0} + \frac{1}{2} c_{1,1} cc_{1,0} - \frac{1}{4} e_{1,1} ec_{1,0} \right) S2 + \frac{1}{4} b_{1,1} bc_{1,0} \right) K^4 + \frac{1}{4} (\lambda_1 + 1) ((c_{1,1} cc_{1,0} - e_{1,1} ec_{1,0}) S2 + b_{1,1} bc_{1,0}) K^2 - \frac{1}{4} S2 e_{1,1} ec_{1,0} \right) \right) / ((K - 1) K^2 ((\lambda_2 - 1) (\lambda_1 - 1) K^4 + (2 \lambda_1 - \lambda_2) K^2 - (1 + \lambda_2) (\lambda_1 + 1)) (K + 1)) :
\end{aligned}$$

$$\begin{aligned}
> Cc_{2,1} := & \frac{1}{8} \left(-2 K^2 ((\lambda_2 - 1) (\lambda_1 - 1) K^6 + ((-7 \lambda_2 + 3) \lambda_1 + 3 \lambda_2 - 1) K^4 + ((5 \lambda_2 - 3) \lambda_1 + 3 \lambda_2 - 1) K^2 + (1 + \lambda_2) (\lambda_1 + 1)) \left(\frac{d}{dt} L_{2,1}(t) \right) - 6 K^4 \lambda_2 ((\lambda_1 - 1) K^4 - \lambda_1 - 1) \left(\frac{d}{dt} M_{2,1}(t) \right) - (K - 1)^2 (K + 1)^2 (-4 ((\lambda_1 - 1) K^2 - \lambda_1 - 1) K^2 (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{2,0}(t) + 4 S2 M_{2,0}(t) cc_{1,0} K^2 ec_{1,0} + ((-cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1}) S2 - bc_{1,0} bc_{1,1}) \lambda_1 + (-S1 ac_{1,0} ac_{1,1} + 2 cc_{1,0} cc_{1,1} - ec_{1,0} ec_{1,1}) S2 + bc_{1,0} bc_{1,1}) K^4 - ((-cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1}) S2 - bc_{1,0} bc_{1,1}) (\lambda_1 + 1) K^2 - S2 ec_{1,0} ec_{1,1}) \right) / ((K - 1) K^2 ((\lambda_2 - 1) (\lambda_1 - 1) K^4 + (2 \lambda_1 - \lambda_2) K^2 - (1 + \lambda_2) (\lambda_1 + 1)) (K + 1)) :
\end{aligned}$$

$$\begin{aligned}
> E_{2,1} := & \frac{1}{8} \left(-6 K^2 ((\lambda_2 - 1) (\lambda_1 - 1) K^6 + ((-3 \lambda_2 + 3) \lambda_1 + \lambda_2 - 1) K^4 + ((\lambda_2 - 3) \lambda_1 + \lambda_2 - 1) K^2 + (1 + \lambda_2) (\lambda_1 + 1)) \left(\frac{d}{dt} L_{c_{2,1}}(t) \right) - 6 K^4 \lambda_2 ((\lambda_1 - 1) K^4 - \lambda_1 - 1) \left(\frac{d}{dt} M_{c_{2,1}}(t) \right) + 4 (K - 1)^2 (K + 1)^2 \left(((\lambda_1 - 1) K^2 - \lambda_1 - 1) K^2 (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{c_{2,0}}(t) - K^2 M_{c_{2,0}}(t) S2 cc_{1,0} ec_{1,0} + \left(\left(-\frac{1}{4} c_{1,1} cc_{1,0} + \frac{1}{4} e_{1,1} ec_{1,0} \right) S2 - \frac{1}{4} b_{1,1} bc_{1,0} \right) \lambda_1 + \left(-\frac{1}{4} S1 a_{1,1} ac_{1,0} + \frac{1}{2} c_{1,1} cc_{1,0} - \frac{1}{4} e_{1,1} ec_{1,0} \right) S2 + \frac{1}{4} b_{1,1} bc_{1,0} \right) K^4 + \frac{1}{4} (\lambda_1 + 1) ((c_{1,1} cc_{1,0} - e_{1,1} ec_{1,0}) S2 + b_{1,1} bc_{1,0}) K^2 - \frac{1}{4} S2 e_{1,1} ec_{1,0} \right) \right) / ((K - 1) K^2 ((\lambda_2 - 1) (\lambda_1 - 1) K^4 + (2 \lambda_1 - \lambda_2) K^2 - (1 + \lambda_2) (\lambda_1 + 1)) (K + 1)) :
\end{aligned}$$

$$\begin{aligned}
> Ec_{2,1} := & \frac{1}{8} \left(6 K^2 ((\lambda_2 - 1) (\lambda_1 - 1) K^6 + ((-3 \lambda_2 + 3) \lambda_1 + \lambda_2 - 1) K^4 + ((\lambda_2 - 3) \lambda_1 + \lambda_2 - 1) K^2 + (1 + \lambda_2) (\lambda_1 + 1)) \left(\frac{d}{dt} L_{2,1}(t) \right) + 6 K^4 \lambda_2 ((\lambda_1 - 1) K^4 - \lambda_1 - 1) \left(\frac{d}{dt} M_{2,1}(t) \right) - (K - 1)^2 (K + 1)^2 (-4 ((\lambda_1 - 1) K^2 - \lambda_1 - 1) K^2 (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{2,0}(t) + 4 S2 M_{2,0}(t) cc_{1,0} K^2 ec_{1,0} + ((-cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1}) S2 - bc_{1,0} bc_{1,1}) \lambda_1 + (-S1 ac_{1,0} ac_{1,1} + 2 cc_{1,0} cc_{1,1} - ec_{1,0} ec_{1,1}) S2 + bc_{1,0} bc_{1,1}) K^4 - ((-cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1}) S2 - bc_{1,0} bc_{1,1}) (\lambda_1 + 1) K^2 - S2 ec_{1,0} ec_{1,1}) \right) / ((K - 1) K^2 ((\lambda_2 - 1) (\lambda_1 - 1) K^4 + (2 \lambda_1 - \lambda_2) K^2 - (1 + \lambda_2) (\lambda_1 + 1)) (K + 1)) :
\end{aligned}$$

$$\begin{aligned}
& -1) \left(\frac{d}{dt} M_{2,1}(t) \right) + (K-1)^2 (K+1)^2 \left(-4 \left((\lambda I - 1) K^2 - \lambda I \right. \right. \\
& -1) K^2 (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{2,0}(t) + 4 S2 M_{2,0}(t) cc_{1,0} K^2 ec_{1,0} + \left(\left(-cc_{1,0} cc_{1,1} \right. \right. \\
& + ec_{1,0} ec_{1,1}) S2 - bc_{1,0} bc_{1,1}) \lambda I + (-SI ac_{1,0} ac_{1,1} + 2 cc_{1,0} cc_{1,1} - ec_{1,0} ec_{1,1}) S2 \\
& + bc_{1,0} bc_{1,1}) K^4 - \left(\left(-cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1} \right) S2 - bc_{1,0} bc_{1,1} \right) (\lambda I + 1) K^2 \\
& - S2 ec_{1,0} ec_{1,1}) \Big) / \left((K-1) K^2 ((\lambda I - 1) (\lambda I - 1) K^4 + (2 \lambda I - \lambda I) K^2 - (1 \right. \\
& + \lambda I) (\lambda I + 1)) (K+1) \Big) :
\end{aligned}$$

$$\begin{aligned}
> F_{2,1} := & \frac{1}{8} \left(12 K^2 \lambda I \left(\left(\lambda I - \frac{1}{2} \right) (\lambda I - 1) K^6 - \frac{1}{2} \lambda I (\lambda I - 1) K^4 + \frac{1}{2} (1 + \lambda I) (\lambda \right. \right. \\
& + 1) \Big) \left(\frac{d}{dt} L_{2,1}(t) \right) - 6 K^4 \lambda I ((\lambda I - 1) (\lambda I - 1) K^6 + (-\lambda I - 1) K^2 + (\lambda I \\
& + 2) (\lambda I + 1)) \left(\frac{d}{dt} M_{2,1}(t) \right) + (K-1) (K+1) \left(-8 K^2 \left(\left(\lambda I - \frac{1}{2} \right) K^4 + \left(-\frac{1}{2} \lambda I \right. \right. \right. \\
& - \frac{1}{2} \Big) K^2 - \frac{1}{2} \lambda I - \frac{1}{2} \Big) \lambda I (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{2,0}(t) - 4 ec_{1,0} cc_{1,0} K^2 S2 ((\lambda I \\
& - 1) K^4 + (\lambda I - 1) K^2 + \lambda I + 2) M_{2,0}(t) + S2 (\lambda I - 1) (-SI a_{1,1} ac_{1,0} \\
& + c_{1,1} cc_{1,0}) K^8 + \left(\left(\left((2 c_{1,1} cc_{1,0} - 2 e_{1,1} ec_{1,0}) \lambda I - SI a_{1,1} ac_{1,0} + e_{1,1} ec_{1,0} \right) S2 \right. \right. \\
& + 2 \left(\lambda I - \frac{1}{2} \right) b_{1,1} bc_{1,0} \Big) \lambda I - S2 (-SI a_{1,1} ac_{1,0} + c_{1,1} cc_{1,0}) \Big) K^6 + \left(\left(\left(-c_{1,1} cc_{1,0} \right. \right. \right. \\
& + e_{1,1} ec_{1,0}) \lambda I - SI a_{1,1} ac_{1,0}) S2 - bc_{1,0} b_{1,1} (\lambda I + 1) \Big) \lambda I + 2 S2 \left(-SI a_{1,1} ac_{1,0} \right. \\
& + c_{1,1} cc_{1,0} + \frac{1}{2} e_{1,1} ec_{1,0} \Big) \Big) K^4 + \left(\left(\left(-c_{1,1} cc_{1,0} + e_{1,1} ec_{1,0} \right) \lambda I - c_{1,1} cc_{1,0} \right) S2 \right. \\
& - bc_{1,0} b_{1,1} (\lambda I + 1) \Big) \lambda I + S2 e_{1,1} ec_{1,0} K^2 - S2 e_{1,1} ec_{1,0} (\lambda I + 2) \Big) \Big) / \left((K \right. \\
& - 1)^2 K^2 ((\lambda I - 1) (\lambda I - 1) K^4 + (2 \lambda I - \lambda I) K^2 - (1 + \lambda I) (\lambda I + 1)) (K+1)^2 \lambda I \Big) :
\end{aligned}$$

$$\begin{aligned}
> F_{c_{2,1}} := & \frac{1}{8} \left(-12 K^2 \lambda I \left(\left(\lambda I - \frac{1}{2} \right) (\lambda I - 1) K^6 - \frac{1}{2} \lambda I (\lambda I - 1) K^4 + \frac{1}{2} (1 + \lambda I) (\lambda \right. \right. \\
& + 1) \Big) \left(\frac{d}{dt} L_{2,1}(t) \right) + 6 K^4 \lambda I ((\lambda I - 1) (\lambda I - 1) K^6 + (-\lambda I - 1) K^2 + (\lambda I + 2) (\lambda I \\
& + 1) \Big) \left(\frac{d}{dt} M_{2,1}(t) \right) - (K-1) (K+1) \left(-8 K^2 \left(\left(\lambda I - \frac{1}{2} \right) K^4 + \left(-\frac{1}{2} \lambda I - \frac{1}{2} \right) K^2 \right. \right. \\
& - \frac{1}{2} \lambda I - \frac{1}{2} \Big) \lambda I (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{2,0}(t) - 4 cc_{1,0} K^2 S2 ec_{1,0} ((\lambda I - 1) K^4 \\
& + (\lambda I - 1) K^2 + \lambda I + 2) M_{2,0}(t) + S2 (\lambda I - 1) (SI ac_{1,0} ac_{1,1} - cc_{1,0} cc_{1,1}) K^8 \\
& + \left(\left(\left(-2 cc_{1,0} cc_{1,1} + 2 ec_{1,0} ec_{1,1} \right) \lambda I + SI ac_{1,0} ac_{1,1} - ec_{1,0} ec_{1,1} \right) S2 - 2 \left(\lambda I \right. \right. \\
& - \frac{1}{2} \Big) bc_{1,1} bc_{1,0} \Big) \lambda I - S2 (SI ac_{1,0} ac_{1,1} - cc_{1,0} cc_{1,1}) \Big) K^6 + \left(\left(\left(cc_{1,0} cc_{1,1} \right. \right. \right. \\
& - ec_{1,0} ec_{1,1}) \lambda I + SI ac_{1,0} ac_{1,1}) S2 + bc_{1,1} bc_{1,0} (\lambda I + 1) \Big) \lambda I - S2 (-2 SI ac_{1,0} ac_{1,1} \\
& + 2 cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1}) \Big) K^4 + \left(\left(\left(cc_{1,0} cc_{1,1} - ec_{1,0} ec_{1,1} \right) \lambda I + cc_{1,0} cc_{1,1} \right) S2 \right.
\end{aligned}$$

$$+ bc_{1,1} bc_{1,0} (\lambda l + 1)) \lambda l - S2 ec_{1,0} ec_{1,1}) K^2 + S2 ec_{1,0} ec_{1,1} (\lambda l + 2)) \Big) / \Big((K - 1)^2 K^2 ((\lambda l - 1) (\lambda l - 1) K^4 + (2 \lambda l - \lambda l) K^2 - (1 + \lambda l) (\lambda l + 1)) (K + 1)^2 \lambda l) : \\$$

$$\begin{aligned} > G_{2,1} := \frac{1}{8} \Big(-6 K^2 \Big(\lambda l (\lambda l - 1) K^4 - \frac{2}{3} (\lambda l - 1) \Big(\lambda l + \frac{1}{2} \Big) K^2 + \frac{1}{3} (1 + \lambda l) (\lambda l + 1) \Big) \lambda l \Big(\frac{d}{dt} Lc_{2,1}(t) \Big) + 2 K^4 \lambda l ((\lambda l - 1) (\lambda l - 1) K^4 + (\lambda l - 2) (\lambda l + 1) K^2 \\ &+ 3 \lambda l + 3) \Big(\frac{d}{dt} Mc_{2,1}(t) \Big) - (K - 1) (-4 K^2 \lambda l (K^2 \lambda l - \lambda l - 1) (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) Lc_{2,0}(t) - 4 ec_{1,0} cc_{1,0} K^2 (1 + (\lambda l - 1) K^2) S2 Mc_{2,0}(t) + S2 (\lambda l - 1) (\\ &- S1 a_{1,1} ac_{1,0} + c_{1,1} cc_{1,0}) K^6 + (\lambda l ((c_{1,1} cc_{1,0} - e_{1,1} ec_{1,0}) S2 + b_{1,1} bc_{1,0}) \lambda l + S2 (\\ &- S1 a_{1,1} ac_{1,0} + c_{1,1} cc_{1,0})) K^4 + (((-c_{1,1} cc_{1,0} + e_{1,1} ec_{1,0}) S2 - b_{1,1} bc_{1,0}) \lambda l \\ &- S2 c_{1,1} cc_{1,0} - b_{1,1} bc_{1,0}) \lambda l + S2 e_{1,1} ec_{1,0}) K^2 - S2 e_{1,1} ec_{1,0}) (K + 1) \Big) / \Big((K - 1)^2 K^2 ((\lambda l - 1) (\lambda l - 1) K^4 + (2 \lambda l - \lambda l) K^2 - (1 + \lambda l) (\lambda l + 1)) (K + 1)^2 \lambda l) : \\ &: \end{aligned}$$

$$\begin{aligned} > Gc_{2,1} := \frac{1}{8} \Big(6 K^2 \Big(\lambda l (\lambda l - 1) K^4 - \frac{2}{3} (\lambda l - 1) \Big(\lambda l + \frac{1}{2} \Big) K^2 + \frac{1}{3} (1 + \lambda l) (\lambda l + 1) \Big) \lambda l \Big(\frac{d}{dt} L_{2,1}(t) \Big) - 2 K^4 \lambda l ((\lambda l - 1) (\lambda l - 1) K^4 + (\lambda l - 2) (\lambda l + 1) K^2 \\ &+ 3 \lambda l + 3) \Big(\frac{d}{dt} M_{2,1}(t) \Big) + (K - 1) (K + 1) (-4 K^2 \lambda l (K^2 \lambda l - \lambda l - 1) (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{2,0}(t) - 4 cc_{1,0} K^2 (1 + (\lambda l - 1) K^2) S2 ec_{1,0} M_{2,0}(t) \\ &+ S2 (\lambda l - 1) (S1 ac_{1,0} ac_{1,1} - cc_{1,0} cc_{1,1}) K^6 + (\lambda l ((-cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1}) S2 \\ &- bc_{1,0} bc_{1,1}) \lambda l + S2 (S1 ac_{1,0} ac_{1,1} - cc_{1,0} cc_{1,1})) K^4 + (((cc_{1,0} cc_{1,1} \\ &- ec_{1,0} ec_{1,1}) S2 + bc_{1,0} bc_{1,1}) \lambda l + S2 cc_{1,0} cc_{1,1} + bc_{1,0} bc_{1,1}) \lambda l - S2 ec_{1,0} ec_{1,1}) K^2 \\ &+ S2 ec_{1,0} ec_{1,1}) \Big) / \Big((K - 1)^2 K^2 ((\lambda l - 1) (\lambda l - 1) K^4 + (2 \lambda l - \lambda l) K^2 - (1 + \lambda l) (\lambda l + 1)) (K + 1)^2 \lambda l) : \\ &: \end{aligned}$$

$$\begin{aligned} > H_{2,1} := \frac{1}{8} \Big(2 ((\lambda l - 1) (\lambda l - 1) K^4 + ((-2 \lambda l + 1) \lambda l - 2 \lambda l + 1) K^2 + 3 \lambda l (1 + \lambda l)) K^4 \lambda l \Big(\frac{d}{dt} Lc_{2,1}(t) \Big) + 6 \Big((\lambda l - 1) K^4 - \frac{1}{3} (\lambda l + 2) (\lambda l - 1) K^2 - \frac{1}{3} (1 + \lambda l) (\lambda l + 1) \Big) K^4 \lambda l \Big(\frac{d}{dt} Mc_{2,1}(t) \Big) - 4 \Big(K^4 ((\lambda l - 1) K^2 - \lambda l) \lambda l (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) Lc_{2,0}(t) - K^2 cc_{1,0} ec_{1,0} S2 (K^2 - \lambda l - 1) Mc_{2,0}(t) + \Big(-\frac{1}{4} (\lambda l - 1) ((c_{1,1} cc_{1,0} - e_{1,1} ec_{1,0}) S2 + b_{1,1} bc_{1,0}) \lambda l + \frac{1}{4} S2 (-S1 a_{1,1} ac_{1,0} + c_{1,1} cc_{1,0})) K^6 + \Big(\Big(\Big(\frac{1}{4} c_{1,1} cc_{1,0} - \frac{1}{4} e_{1,1} ec_{1,0} \Big) \lambda l - \frac{1}{4} c_{1,1} cc_{1,0} + \frac{1}{4} S1 a_{1,1} ac_{1,0} \Big) S2 + \frac{1}{4} b_{1,1} bc_{1,0} \lambda l \Big) \lambda l - \frac{1}{4} S2 (-S1 a_{1,1} ac_{1,0} + c_{1,1} cc_{1,0}) \Big) K^4 - \frac{1}{4} K^2 S2 e_{1,1} ec_{1,0} \end{aligned}$$

$$\begin{aligned}
& + 1) \lambda^2 \left(\frac{d}{dt} M_{2,1}(t) \right) + (K-1)(K+1) \left(-4K^4((\lambda-1)K^4 + (\lambda-1)K^2 - 2\lambda - 1) \right. \\
& \lambda^2 (S2 cc_{1,0} ec_{1,0} + bc_{1,0}) L_{2,0}(t) - 4((\lambda-2)K^4 + (1+\lambda)K^2 + \lambda^2 \\
& + 1) cc_{1,0} S2 ec_{1,0} K^2 M_{2,0}(t) + ((-cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1}) S2 - bc_{1,0} bc_{1,1}) \lambda \\
& + (S1 ac_{1,0} ac_{1,1} - ec_{1,0} ec_{1,1}) S2 + bc_{1,0} bc_{1,1}) \lambda^2 - 2 S2 (S1 ac_{1,0} ac_{1,1} \\
& - cc_{1,0} cc_{1,1}) K^8 + (((-cc_{1,0} cc_{1,1} + ec_{1,0} ec_{1,1}) S2 - bc_{1,0} bc_{1,1}) \lambda \\
& + (S1 ac_{1,0} ac_{1,1} - ec_{1,0} ec_{1,1}) S2 + bc_{1,0} bc_{1,1}) \lambda^2 + S2 (S1 ac_{1,0} ac_{1,1} - cc_{1,0} cc_{1,1}) \\
& K^6 + \left(((2 cc_{1,0} cc_{1,1} - 2 ec_{1,0} ec_{1,1}) S2 + 2 bc_{1,0} bc_{1,1}) \lambda + S1 S2 ac_{1,0} ac_{1,1} \right. \\
& + bc_{1,0} bc_{1,1}) \lambda^2 - 2 S2 \left(-\frac{1}{2} ac_{1,1} ac_{1,0} S1 + ec_{1,0} ec_{1,1} + \frac{1}{2} cc_{1,1} cc_{1,0} \right) K^4 \\
& + S2 ec_{1,0} ec_{1,1} (1+\lambda) K^2 + S2 ec_{1,0} ec_{1,1} (1+\lambda) \left. \right) \Bigg/ ((K-1)^2 (K \\
& + 1)^2 K^2 \lambda^2 ((\lambda-1)(\lambda-1)K^4 + (2\lambda-\lambda^2)K^2 - (1+\lambda)(\lambda+1))) :
\end{aligned}$$

>

$$\begin{aligned}
> A_{3,1} := & \frac{1}{3} \left((-2(\lambda-1)(\lambda-1)K^{10} - 2(\lambda-1)(\lambda-1)K^8 + 4(\lambda-4)(\lambda-1)K^6 \right. \\
& + ((4\lambda-4)\lambda^2 + 16\lambda-8)K^4 - 2(\lambda+1)(\lambda+1)K^2 - 2(\lambda+1)(\lambda+1)) \\
& \left(\frac{d}{dt} Mc_{3,1}(t) \right) + 4 \left(\frac{d}{dt} Lc_{3,1}(t) \right) ((\lambda-1)K^6 + \lambda^2 + 1)K \Bigg/ (((\lambda-1)(\lambda-1)K^8 \\
& + 2(\lambda-1)(\lambda-1)K^6 + (6\lambda-2\lambda^2)K^4 - 2(\lambda+1)(\lambda+1)K^2 - (\lambda+1)(\lambda+1)) \\
& (K+1)K(K-1)) :
\end{aligned}$$

$$\begin{aligned}
> Ac_{3,1} := & \frac{1}{3} \left((2(\lambda-1)(\lambda-1)K^{10} + 2(\lambda-1)(\lambda-1)K^8 - 4(\lambda-4)(\lambda-1)K^6 \right. \\
& + ((-4\lambda+4)\lambda^2 - 16\lambda+8)K^4 + 2(\lambda+1)(\lambda+1)K^2 + 2(\lambda+1)(\lambda+1)) \\
& \left(\frac{d}{dt} M_{3,1}(t) \right) - 4 \left(\frac{d}{dt} L_{3,1}(t) \right) ((\lambda-1)K^6 + \lambda^2 + 1)K \Bigg/ (((\lambda-1)(\lambda-1)K^8 \\
& + 2(\lambda-1)(\lambda-1)K^6 + (6\lambda-2\lambda^2)K^4 - 2(\lambda+1)(\lambda+1)K^2 - (\lambda+1)(\lambda+1)) \\
& (K+1)K(K-1)) :
\end{aligned}$$

$$\begin{aligned}
> B_{3,1} := & \frac{1}{3} \left(((\lambda-1)(\lambda-1)K^{10} + (\lambda-1)(\lambda-1)K^8 + ((-2\lambda+4)\lambda^2 + 8\lambda-14)K^6 \right. \\
& + ((-2\lambda+4)\lambda^2 - 8\lambda+10)K^4 + (\lambda+1)(\lambda+1)K^2 + (\lambda+1)(\lambda+1)) \\
& \left(\frac{d}{dt} Mc_{3,1}(t) \right) - 4 \left(\frac{d}{dt} Lc_{3,1}(t) \right) ((\lambda-1)K^6 + \lambda^2 + 1)K \Bigg/ (((\lambda-1)(\lambda-1)K^8 \\
& + 2(\lambda-1)(\lambda-1)K^6 + (6\lambda-2\lambda^2)K^4 - 2(\lambda+1)(\lambda+1)K^2 - (\lambda+1)(\lambda+1)) \\
& (K+1)K^3(K-1)) :
\end{aligned}$$

$$\begin{aligned}
> Bc_{3,1} := & \frac{1}{3} \left((- (\lambda-1)(\lambda-1)K^{10} - (\lambda-1)(\lambda-1)K^8 + ((2\lambda-4)\lambda^2 - 8\lambda \right.
\end{aligned}$$

$$+ 14) K^6 + ((2\lambda - 4)\lambda + 8\lambda - 10) K^4 - (\lambda + 1)(\lambda + 1) K^2 - (\lambda + 1)(\lambda + 1) \left(\frac{d}{dt} M_{3,1}(t) \right) + 4 \left(\frac{d}{dt} L_{3,1}(t) \right) ((\lambda - 1) K^6 + \lambda + 1) K \Bigg/ (((\lambda - 1)(\lambda - 1) K^8 + 2(\lambda - 1)(\lambda - 1) K^6 + (6\lambda - 2\lambda) K^4 - 2(\lambda + 1)(\lambda + 1) K^2 - (\lambda + 1)(\lambda + 1)) (K + 1) K^3 (K - 1)) :$$

$$> C_{3,1} := \frac{1}{3} \left(((\lambda - 1)(\lambda - 1) K^{10} + (\lambda - 1)(\lambda - 1) K^8 + ((-14\lambda + 8)\lambda + 4\lambda - 2) K^6 + ((10\lambda - 8)\lambda + 4\lambda - 2) K^4 + (\lambda + 1)(\lambda + 1) K^2 + (\lambda + 1)(\lambda + 1) \left(\frac{d}{dt} L_{3,1}(t) \right) + 4\lambda ((\lambda - 1) K^6 - \lambda - 1) \left(\frac{d}{dt} M_{3,1}(t) \right) K^3 \right) \Bigg/ (((\lambda - 1)(\lambda - 1) K^8 + 2(\lambda - 1)(\lambda - 1) K^6 + (6\lambda - 2\lambda) K^4 - 2(\lambda + 1)(\lambda + 1) K^2 - (\lambda + 1)(\lambda + 1)) (K + 1) (K - 1)) :$$

$$> C_{c3,1} := \frac{1}{3} \left((-(\lambda - 1)(\lambda - 1) K^{10} - (\lambda - 1)(\lambda - 1) K^8 + ((14\lambda - 8)\lambda - 4\lambda + 2) K^6 + ((-10\lambda + 8)\lambda - 4\lambda + 2) K^4 - (\lambda + 1)(\lambda + 1) K^2 - (\lambda + 1)(\lambda + 1) \left(\frac{d}{dt} L_{3,1}(t) \right) - 4\lambda ((\lambda - 1) K^6 - \lambda - 1) \left(\frac{d}{dt} M_{3,1}(t) \right) K^3 \right) \Bigg/ (((\lambda - 1)(\lambda - 1) K^8 + 2(\lambda - 1)(\lambda - 1) K^6 + (6\lambda - 2\lambda) K^4 - 2(\lambda + 1)(\lambda + 1) K^2 - (\lambda + 1)(\lambda + 1)) (K + 1) (K - 1)) :$$

$$> E_{3,1} := \frac{1}{3} \left((-2(\lambda - 1)(\lambda - 1) K^{10} - 2(\lambda - 1)(\lambda - 1) K^8 + 16(\lambda - 1) \left(\lambda - \frac{1}{4} \right) K^6 + ((-8\lambda + 16)\lambda - 4\lambda + 4) K^4 - 2(\lambda + 1)(\lambda + 1) K^2 - 2(\lambda + 1)(\lambda + 1) \left(\frac{d}{dt} L_{3,1}(t) \right) - 4\lambda ((\lambda - 1) K^6 - \lambda - 1) \left(\frac{d}{dt} M_{3,1}(t) \right) K^3 \right) \Bigg/ (((\lambda - 1)(\lambda - 1) K^8 + 2(\lambda - 1)(\lambda - 1) K^6 + (6\lambda - 2\lambda) K^4 - 2(\lambda + 1)(\lambda + 1) K^2 - (\lambda + 1)(\lambda + 1)) (K + 1) (K - 1)) :$$

$$> E_{c3,1} := \frac{1}{3} \left((2(\lambda - 1)(\lambda - 1) K^{10} + 2(\lambda - 1)(\lambda - 1) K^8 - 16(\lambda - 1) \left(\lambda - \frac{1}{4} \right) K^6 + ((8\lambda - 16)\lambda + 4\lambda - 4) K^4 + 2(\lambda + 1)(\lambda + 1) K^2 + 2(\lambda + 1)(\lambda + 1) \left(\frac{d}{dt} L_{3,1}(t) \right) + 4\lambda ((\lambda - 1) K^6 - \lambda - 1) \left(\frac{d}{dt} M_{3,1}(t) \right) K^3 \right) \Bigg/ (((\lambda - 1)(\lambda - 1) K^8 + 2(\lambda - 1)(\lambda - 1) K^6 + (6\lambda - 2\lambda) K^4 - 2(\lambda + 1)(\lambda + 1) K^2 - (\lambda + 1)(\lambda + 1)) (K + 1) (K - 1)) :$$

$$> F_{3,1} := \frac{1}{3} \left((((6\lambda - 6)\lambda - 2\lambda + 2) K^8 - 4\lambda(\lambda - 1) K^6 + 2(\lambda + 1)(\lambda + 1) \left(\frac{d}{dt} L_{3,1}(t) \right) - 2((\lambda - 1)(\lambda - 1) K^8 + (-2\lambda - 2) K^2 + (\lambda + 3)(\lambda + 1) \left(\frac{d}{dt} M_{3,1}(t) \right) K^3) \right) \Bigg/ (((\lambda - 1)(\lambda - 1) K^8 + 2(\lambda - 1)(\lambda - 1) K^6 + (6\lambda - 2\lambda) K^4 - 2(\lambda + 1)(\lambda + 1) K^2 - (\lambda + 1)(\lambda + 1)) (K + 1)^2 (K$$

$-1)^2) :$

$$> F_{c_{3,1}} := \frac{1}{3} \left(((-6\lambda^2 + 6)\lambda + 2\lambda^2 - 2)K^8 + 4\lambda(\lambda^2 - 1)K^6 - 2(\lambda^2 + 1)(\lambda + 1) \left(\frac{d}{dt} L_{3,1}(t) \right) + 2((\lambda^2 - 1)(\lambda - 1)K^8 + (-2\lambda - 2)K^2 + (\lambda^2 + 3)(\lambda + 1)) \left(\frac{d}{dt} M_{3,1}(t) \right) K^3 \right) / ((\lambda^2 - 1)(\lambda - 1)K^8 + 2(\lambda^2 - 1)(\lambda - 1)K^6 + (6\lambda - 2\lambda^2)K^4 - 2(\lambda^2 + 1)(\lambda + 1)K^2 - (\lambda^2 + 1)(\lambda + 1)(K + 1)^2(K - 1)^2) :$$

$$> G_{3,1} := \frac{1}{3} \left((-4\lambda(\lambda^2 - 1)K^6 + ((3\lambda^2 - 3)\lambda + \lambda^2 - 1)K^4 - (\lambda^2 + 1)(\lambda + 1)) \left(\frac{d}{dt} L_{c_{3,1}}(t) \right) + \left(\frac{d}{dt} M_{c_{3,1}}(t) \right) ((\lambda^2 - 1)(\lambda - 1)K^6 + (\lambda^2 - 3)(\lambda + 1)K^2 + 4\lambda + 4)K^3 \right) / (((\lambda^2 - 1)(\lambda - 1)K^8 + 2(\lambda^2 - 1)(\lambda - 1)K^6 + (6\lambda - 2\lambda^2)K^4 - 2(\lambda^2 + 1)(\lambda + 1)K^2 - (\lambda^2 + 1)(\lambda + 1)(K + 1)^2(K - 1)^2) :$$

$$> G_{c_{3,1}} := \frac{1}{3} \left((4\lambda(\lambda^2 - 1)K^6 + ((-3\lambda^2 + 3)\lambda - \lambda^2 + 1)K^4 + (\lambda^2 + 1)(\lambda + 1)) \left(\frac{d}{dt} L_{3,1}(t) \right) - \left(\frac{d}{dt} M_{3,1}(t) \right) ((\lambda^2 - 1)(\lambda - 1)K^6 + (\lambda^2 - 3)(\lambda + 1)K^2 + 4\lambda + 4)K^3 \right) / (((\lambda^2 - 1)(\lambda - 1)K^8 + 2(\lambda^2 - 1)(\lambda - 1)K^6 + (6\lambda - 2\lambda^2)K^4 - 2(\lambda^2 + 1)(\lambda + 1)K^2 - (\lambda^2 + 1)(\lambda + 1)(K + 1)^2(K - 1)^2) :$$

$$> H_{3,1} := \frac{1}{3} \left(((\lambda^2 - 1)(\lambda - 1)K^6 + ((-3\lambda^2 - 3)\lambda + \lambda^2 + 1)K^2 + 4\lambda(\lambda^2 + 1))K \left(\frac{d}{dt} L_{c_{3,1}}(t) \right) + 4 \left((\lambda - 1)K^6 - \frac{1}{4}(\lambda^2 + 3)(\lambda - 1)K^4 - \frac{1}{4}(\lambda^2 + 1)(\lambda + 1) \right) \left(\frac{d}{dt} M_{c_{3,1}}(t) \right) K^5 \right) / (((\lambda^2 - 1)(\lambda - 1)K^8 + 2(\lambda^2 - 1)(\lambda - 1)K^6 + (6\lambda - 2\lambda^2)K^4 - 2(\lambda^2 + 1)(\lambda + 1)K^2 - (\lambda^2 + 1)(\lambda + 1)(K + 1)^2(K - 1)^2) :$$

$$> H_{c_{3,1}} := -\frac{1}{3} \left(((\lambda^2 - 1)(\lambda - 1)K^6 + ((-3\lambda^2 - 3)\lambda + \lambda^2 + 1)K^2 + 4\lambda(\lambda^2 + 1))K \left(\frac{d}{dt} L_{3,1}(t) \right) + 4 \left((\lambda - 1)K^6 - \frac{1}{4}(\lambda^2 + 3)(\lambda - 1)K^4 - \frac{1}{4}(\lambda^2 + 1)(\lambda + 1) \right) \left(\frac{d}{dt} M_{3,1}(t) \right) K^5 \right) / (((\lambda^2 - 1)(\lambda - 1)K^8 + 2(\lambda^2 - 1)(\lambda - 1)K^6 + (6\lambda - 2\lambda^2)K^4 - 2(\lambda^2 + 1)(\lambda + 1)K^2 - (\lambda^2 + 1)(\lambda + 1)(K + 1)^2(K - 1)^2) :$$

$$> J_{3,1} := -\frac{2}{3} \left(K^3 \left(K((\lambda^2 - 1)(\lambda - 1)K^8 - 2\lambda(1 + \lambda^2)K^2 + (3\lambda^2 + 3)\lambda + \lambda^2 + 1) \left(\frac{d}{dt} L_{c_{3,1}}(t) \right) - ((\lambda^2 - 3)(\lambda - 1)K^8 + (2\lambda - 2)K^6 + (1 + \lambda^2)(\lambda + 1)) \left(\frac{d}{dt} M_{c_{3,1}}(t) \right) \right) \right) / (((\lambda^2 - 1)(\lambda - 1)K^8 + 2(\lambda^2 - 1)(\lambda - 1)K^6$$

$$+ (6\lambda - 2\lambda^2) K^4 - 2(1 + \lambda^2)(\lambda + 1) K^2 - (1 + \lambda^2)(\lambda + 1)) (K - 1)^2 (K + 1)^2) :$$

$$\begin{aligned} &> J_{c_{3,1}} := \frac{2}{3} \left(K^3 \left(K((\lambda^2 - 1)(\lambda - 1) K^8 - 2\lambda(1 + \lambda^2) K^2 + (3\lambda^2 + 3)\lambda + \lambda^2 \right. \right. \\ &\quad \left. \left. + 1) \left(\frac{d}{dt} L_{3,1}(t) \right) - ((\lambda^2 - 3)(\lambda - 1) K^8 + (2\lambda - 2) K^6 + (1 + \lambda^2)(\lambda \right. \right. \\ &\quad \left. \left. + 1)) \left(\frac{d}{dt} M_{3,1}(t) \right) \right) \right) / (((\lambda^2 - 1)(\lambda - 1) K^8 + 2(\lambda^2 - 1)(\lambda - 1) K^6 + (6\lambda \\ &\quad - 2\lambda^2) K^4 - 2(1 + \lambda^2)(\lambda + 1) K^2 - (1 + \lambda^2)(\lambda + 1)) (K - 1)^2 (K + 1)^2) : \end{aligned}$$

$$\begin{aligned} &> A_{4,1} := \frac{1}{16} \left(-10\lambda^2 K^4 ((\lambda^2 - 1)(\lambda - 1) K^{14} + (\lambda^2 - 1)(\lambda - 1) K^{12} + (\lambda^2 - 1)(\lambda \right. \\ &\quad \left. - 1) K^{10} - 3(\lambda^2 - 5)(\lambda - 1) K^8 + ((-3\lambda + 3)\lambda^2 - 15\lambda + 9) K^6 + (\lambda^2 \right. \\ &\quad \left. + 1)(\lambda + 1) K^4 + (\lambda^2 + 1)(\lambda + 1) K^2 + (\lambda^2 + 1)(\lambda + 1)) \left(\frac{d}{dt} M_{c_{4,1}}(t) \right) \right. \\ &\quad \left. + 30\lambda^2 K^6 ((\lambda^2 - 1) K^8 + \lambda^2 + 1) \left(\frac{d}{dt} L_{c_{4,1}}(t) \right) + \left(34 \left(\left(-\frac{1}{17} B_{c_{2,0}} \right. \right. \right. \right. \\ &\quad \left. \left. + \frac{4}{17} G_{c_{2,0}} \right) \lambda^2 + B_{c_{2,0}} \lambda - \frac{10}{17} B_{c_{2,0}} - \frac{13}{17} G_{c_{2,0}} \right) \lambda^2 (\lambda^2 - 1) K^{20} + 22 \left(\left(\right. \right. \\ &\quad \left. \left. - \frac{1}{11} A_{c_{2,0}} - \frac{1}{11} B_{c_{2,0}} + \frac{2}{11} F_{c_{2,0}} + \frac{4}{11} G_{c_{2,0}} \right) \lambda^2 + \left(\left(A_{c_{2,0}} + \frac{17}{11} B_{c_{2,0}} \right) \lambda \right. \right. \\ &\quad \left. \left. - \frac{6}{11} A_{c_{2,0}} - \frac{10}{11} B_{c_{2,0}} - \frac{7}{11} F_{c_{2,0}} - \frac{13}{11} G_{c_{2,0}} \right) \lambda^2 + \frac{1}{22} S_2 (S_1 ac_{1,0}^2 - cc_{1,0}^2) \right) (\lambda^2 \\ &\quad - 1) K^{18} + 22(\lambda^2 - 1) \left(\left(-\frac{1}{11} A_{c_{2,0}} - \frac{1}{11} B_{c_{2,0}} + \frac{2}{11} F_{c_{2,0}} + \frac{4}{11} G_{c_{2,0}} \right) \lambda^2 \right. \\ &\quad \left. + \left(\left(A_{c_{2,0}} + \frac{17}{11} B_{c_{2,0}} \right) \lambda - \frac{6}{11} A_{c_{2,0}} - \frac{10}{11} B_{c_{2,0}} - \frac{7}{11} F_{c_{2,0}} - \frac{13}{11} G_{c_{2,0}} \right. \right. \\ &\quad \left. \left. - \frac{13}{11} J_{c_{2,0}} \right) \lambda^2 + \frac{1}{22} S_2 (S_1 ac_{1,0}^2 - cc_{1,0}^2) \right) K^{16} + ((-2 A_{c_{2,0}} + 6 B_{c_{2,0}} + 4 F_{c_{2,0}} \\ &\quad - 24 G_{c_{2,0}} - 4 H_{c_{2,0}}) \lambda^3 + ((22 A_{c_{2,0}} - 102 B_{c_{2,0}}) \lambda - 10 A_{c_{2,0}} - 30 B_{c_{2,0}} - 18 F_{c_{2,0}} \\ &\quad + 258 G_{c_{2,0}} - 82 H_{c_{2,0}} - 26 J_{c_{2,0}}) \lambda^2 + ((-22 A_{c_{2,0}} + 510 B_{c_{2,0}}) \lambda + (S_1 ac_{1,0}^2 - \\ &\quad cc_{1,0}^2 - 2 ec_{1,0}^2) S_2 + 12 A_{c_{2,0}} - 60 B_{c_{2,0}} + 14 F_{c_{2,0}} - 630 G_{c_{2,0}} + 86 H_{c_{2,0}} + 26 J_{c_{2,0}}) \lambda^2 \\ &\quad - (S_1 ac_{1,0}^2 - cc_{1,0}^2 - 2 ec_{1,0}^2) S_2) K^{14} + ((6 A_{c_{2,0}} + 6 B_{c_{2,0}} - 12 F_{c_{2,0}} - 24 G_{c_{2,0}} \\ &\quad - 4 H_{c_{2,0}}) \lambda^3 + ((-66 A_{c_{2,0}} - 102 B_{c_{2,0}}) \lambda - 30 A_{c_{2,0}} + 30 B_{c_{2,0}} + 138 F_{c_{2,0}} \\ &\quad + 18 G_{c_{2,0}} - 82 H_{c_{2,0}} - 26 J_{c_{2,0}}) \lambda^2 + ((330 A_{c_{2,0}} - 510 B_{c_{2,0}}) \lambda + (-3 S_1 ac_{1,0}^2 + 3 \\ &\quad cc_{1,0}^2 - 2 ec_{1,0}^2) S_2 - 36 A_{c_{2,0}} - 60 B_{c_{2,0}} - 354 F_{c_{2,0}} + 330 G_{c_{2,0}} + 86 H_{c_{2,0}} + 26 J_{c_{2,0}}) \\ &\quad \lambda^2 + 15 S_2 (ac_{1,0}^2 S_1 - cc_{1,0}^2 + \frac{2}{15} ec_{1,0}^2) \right) K^{12} + ((6 A_{c_{2,0}} - 2 B_{c_{2,0}} - 12 F_{c_{2,0}} \end{aligned}$$

$$\begin{aligned}
& + 8 G_{c_{2,0}} - 4 H_{c_{2,0}}) \lambda^3 + \left((-66 A_{c_{2,0}} + 34 B_{c_{2,0}}) \lambda I + 30 A_{c_{2,0}} + 18 B_{c_{2,0}} + 18 F_{c_{2,0}} \right. \\
& + 82 G_{c_{2,0}} - 82 H_{c_{2,0}} - 6 J_{c_{2,0}}) \lambda^2 + \left((-330 A_{c_{2,0}} + 34 B_{c_{2,0}}) \lambda I + (-3 S I a c_{1,0}^2 + 3 \right. \\
& c c_{1,0}^2 - 2 e c_{1,0}^2) S 2 - 36 A_{c_{2,0}} + 20 B_{c_{2,0}} + 246 F_{c_{2,0}} + 74 G_{c_{2,0}} + 86 H_{c_{2,0}} - 54 J_{c_{2,0}}) \lambda^2 \\
& - 15 S 2 \left(a c_{1,0}^2 S I - c c_{1,0}^2 - \frac{2}{15} e c_{1,0}^2 \right) K^{10} + \left((-2 A_{c_{2,0}} - 2 B_{c_{2,0}} + 4 F_{c_{2,0}} + 8 G_{c_{2,0}} \right. \\
& + 12 H_{c_{2,0}}) \lambda^3 + \left((22 A_{c_{2,0}} + 34 B_{c_{2,0}}) \lambda I + 10 A_{c_{2,0}} + 18 B_{c_{2,0}} + 26 F_{c_{2,0}} + 82 G_{c_{2,0}} \right. \\
& - 102 H_{c_{2,0}} - 6 J_{c_{2,0}}) \lambda^2 + \left((22 A_{c_{2,0}} + 34 B_{c_{2,0}}) \lambda I + (S I a c_{1,0}^2 - c c_{1,0}^2 + 6 e c_{1,0}^2) S 2 \right. \\
& + 12 A_{c_{2,0}} + 20 B_{c_{2,0}} + 22 F_{c_{2,0}} + 74 G_{c_{2,0}} - 90 H_{c_{2,0}} - 54 J_{c_{2,0}}) \lambda^2 + S 2 (S I a c_{1,0}^2 - \\
& c c_{1,0}^2 - 30 e c_{1,0}^2) K^8 + \left((-2 A_{c_{2,0}} - 2 B_{c_{2,0}} + 4 F_{c_{2,0}} + 8 G_{c_{2,0}} + 12 H_{c_{2,0}}) \lambda^3 \right. \\
& + \left((22 A_{c_{2,0}} + 34 B_{c_{2,0}}) \lambda I + 10 A_{c_{2,0}} + 18 B_{c_{2,0}} + 26 F_{c_{2,0}} + 82 G_{c_{2,0}} + 18 H_{c_{2,0}} \right. \\
& + 10 J_{c_{2,0}}) \lambda^2 + \left((22 A_{c_{2,0}} + 34 B_{c_{2,0}}) \lambda I + (S I a c_{1,0}^2 - c c_{1,0}^2 + 6 e c_{1,0}^2) S 2 + 12 A_{c_{2,0}} \right. \\
& + 20 B_{c_{2,0}} + 22 F_{c_{2,0}} + 74 G_{c_{2,0}} - 210 H_{c_{2,0}} + 10 J_{c_{2,0}}) \lambda^2 + S 2 (S I a c_{1,0}^2 - c c_{1,0}^2 + 30 \\
& e c_{1,0}^2) K^6 + 22 (\lambda^2 + 1) \left(\left(-\frac{1}{11} A_{c_{2,0}} + \frac{2}{11} F_{c_{2,0}} - \frac{2}{11} H_{c_{2,0}} \right) \lambda^2 + \left(\lambda I A_{c_{2,0}} \right. \right. \\
& + \frac{6}{11} A_{c_{2,0}} + F_{c_{2,0}} + \frac{7}{11} H_{c_{2,0}} + \frac{5}{11} J_{c_{2,0}}) \lambda^2 + \frac{1}{22} (S I a c_{1,0}^2 - c c_{1,0}^2 - 2 e c_{1,0}^2) S 2) \\
& K^4 - 4 \left(\lambda^2 H_{c_{2,0}} + \left(-\frac{7}{2} H_{c_{2,0}} - \frac{5}{2} J_{c_{2,0}} \right) \lambda^2 + \frac{1}{2} S 2 e c_{1,0}^2 \right) (\lambda^2 + 1) K^2 - 4 (\lambda^2 \\
& + 1) \left(\lambda^2 H_{c_{2,0}} + \frac{1}{2} S 2 e c_{1,0}^2 - \frac{7}{2} \lambda^2 H_{c_{2,0}} \right) M_{c_{2,0}}(t) - 8 \left(\left((\lambda^2 - 1) \left(\left(G_{2,0} \right. \right. \right. \right. \\
& - \frac{1}{4} B_{2,0}) \lambda^2 + \frac{17}{4} \lambda I B_{2,0} - \frac{13}{4} G_{2,0} - \frac{5}{2} B_{2,0}) K^{20} + \frac{1}{2} \left(\left(F_{2,0} + 2 G_{2,0} \right. \right. \\
& - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0}) \lambda^2 + \left(\frac{11}{2} A_{2,0} + \frac{17}{2} B_{2,0} \right) \lambda I - \frac{7}{2} F_{2,0} - \frac{13}{2} G_{2,0} - 3 A_{2,0} \\
& - 5 B_{2,0}) (\lambda^2 - 1) K^{18} + \frac{1}{2} (\lambda^2 - 1) \left(\left(F_{2,0} + 2 G_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) \lambda^2 \right. \\
& + \left(\frac{11}{2} A_{2,0} + \frac{17}{2} B_{2,0} \right) \lambda I - \frac{7}{2} F_{2,0} - \frac{13}{2} G_{2,0} - \frac{13}{2} J_{2,0} - 3 A_{2,0} - 5 B_{2,0}) K^{16} \\
& + \left(\left(-\frac{1}{2} H_{2,0} - 3 G_{2,0} + \frac{3}{4} B_{2,0} - \frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} \right) \lambda^2 + \left(\left(\frac{11}{4} A_{2,0} \right. \right. \right. \\
& - \frac{51}{4} B_{2,0}) \lambda I - \frac{9}{4} F_{2,0} - \frac{5}{4} A_{2,0} - \frac{13}{4} J_{2,0} - \frac{41}{4} H_{2,0} - \frac{15}{4} B_{2,0} + \frac{129}{4} G_{2,0}) \lambda^2 \\
& + \left(-\frac{11}{4} A_{2,0} + \frac{255}{4} B_{2,0} \right) \lambda I - \frac{315}{4} G_{2,0} + \frac{7}{4} F_{2,0} + \frac{13}{4} J_{2,0} + \frac{43}{4} H_{2,0} + \frac{3}{2} A_{2,0} \\
& - \frac{15}{2} B_{2,0}) K^{14} + \left(\left(\frac{3}{4} B_{2,0} - \frac{1}{2} H_{2,0} - 3 G_{2,0} + \frac{3}{4} A_{2,0} - \frac{3}{2} F_{2,0} \right) \lambda^2 + \left(\left(\right. \right. \right. \\
& - \frac{33}{4} A_{2,0} - \frac{51}{4} B_{2,0}) \lambda I + \frac{9}{4} G_{2,0} - \frac{13}{4} J_{2,0} + \frac{69}{4} F_{2,0} - \frac{15}{4} A_{2,0} - \frac{41}{4} H_{2,0}
\end{aligned}$$

$$\begin{aligned}
& + \frac{15}{4} B_{2,0} \Big) \lambda^2 + \left(-\frac{255}{4} B_{2,0} + \frac{165}{4} A_{2,0} \right) \lambda l - \frac{177}{4} F_{2,0} + \frac{43}{4} H_{2,0} + \frac{13}{4} J_{2,0} \\
& + \frac{165}{4} G_{2,0} - \frac{9}{2} A_{2,0} - \frac{15}{2} B_{2,0} \Big) K^{12} + \left(\left(\frac{3}{4} A_{2,0} - \frac{3}{2} F_{2,0} - \frac{1}{4} B_{2,0} + G_{2,0} \right. \right. \\
& \left. \left. - \frac{1}{2} H_{2,0} \right) \lambda^2 + \left(\left(\frac{17}{4} B_{2,0} - \frac{33}{4} A_{2,0} \right) \lambda l + \frac{9}{4} F_{2,0} + \frac{41}{4} G_{2,0} - \frac{41}{4} H_{2,0} \right. \right. \\
& \left. \left. + \frac{15}{4} A_{2,0} - \frac{3}{4} J_{2,0} + \frac{9}{4} B_{2,0} \right) \lambda^2 + \left(\frac{17}{4} B_{2,0} - \frac{165}{4} A_{2,0} \right) \lambda l - \frac{27}{4} J_{2,0} + \frac{43}{4} H_{2,0} \right. \\
& \left. + \frac{123}{4} F_{2,0} + \frac{37}{4} G_{2,0} - \frac{9}{2} A_{2,0} + \frac{5}{2} B_{2,0} \right) K^{10} + \left(\left(-\frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} - \frac{1}{4} B_{2,0} \right. \right. \\
& \left. \left. + G_{2,0} + \frac{3}{2} H_{2,0} \right) \lambda^2 + \left(\left(\frac{17}{4} B_{2,0} + \frac{11}{4} A_{2,0} \right) \lambda l + \frac{13}{4} F_{2,0} - \frac{3}{4} J_{2,0} + \frac{9}{4} B_{2,0} \right. \right. \\
& \left. \left. + \frac{41}{4} G_{2,0} + \frac{5}{4} A_{2,0} - \frac{51}{4} H_{2,0} \right) \lambda^2 + \left(\frac{17}{4} B_{2,0} + \frac{11}{4} A_{2,0} \right) \lambda l - \frac{45}{4} H_{2,0} + \frac{5}{2} B_{2,0} \right. \\
& \left. + \frac{37}{4} G_{2,0} + \frac{11}{4} F_{2,0} - \frac{27}{4} J_{2,0} + \frac{3}{2} A_{2,0} \right) K^8 + \left(\left(-\frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} - \frac{1}{4} B_{2,0} \right. \right. \\
& \left. \left. + G_{2,0} + \frac{3}{2} H_{2,0} \right) \lambda^2 + \left(\left(\frac{17}{4} B_{2,0} + \frac{11}{4} A_{2,0} \right) \lambda l + \frac{9}{4} H_{2,0} + \frac{5}{4} J_{2,0} + \frac{5}{4} A_{2,0} \right. \right. \\
& \left. \left. + \frac{13}{4} F_{2,0} + \frac{41}{4} G_{2,0} + \frac{9}{4} B_{2,0} \right) \lambda^2 + \left(\frac{17}{4} B_{2,0} + \frac{11}{4} A_{2,0} \right) \lambda l + \frac{37}{4} G_{2,0} + \frac{3}{2} A_{2,0} \right. \\
& \left. + \frac{11}{4} F_{2,0} - \frac{105}{4} H_{2,0} + \frac{5}{4} J_{2,0} + \frac{5}{2} B_{2,0} \right) K^6 + \frac{1}{2} (\lambda^2 + 1) \left(\left(F_{2,0} - H_{2,0} \right. \right. \\
& \left. \left. - \frac{1}{2} A_{2,0} \right) \lambda^2 + \frac{11}{2} \lambda l A_{2,0} + \frac{11}{2} F_{2,0} + \frac{7}{2} H_{2,0} + \frac{5}{2} J_{2,0} + 3 A_{2,0} \right) K^4 - \frac{1}{2} (\lambda^2 \\
& + 1) \left(\lambda^2 H_{2,0} - \frac{7}{2} H_{2,0} - \frac{5}{2} J_{2,0} \right) K^2 - \frac{1}{2} H_{2,0} \left(\lambda^2 - \frac{7}{2} \right) (\lambda^2 + 1) \Big) M_{2,0}(t) \\
& - \frac{9}{4} K^6 \left(\left(\left(\left(\frac{2}{3} F_{c2,0} - \frac{1}{3} A_{c2,0} - \frac{2}{3} H_{c2,0} - \frac{1}{3} B_{c2,0} + \frac{4}{3} G_{c2,0} \right) \lambda^2 + \left(\frac{1}{3} J_{c2,0} \right. \right. \right. \right. \\
& \left. \left. \left. - \frac{13}{3} F_{c2,0} - \frac{23}{3} G_{c2,0} + \frac{7}{3} H_{c2,0} \right) \lambda^2 + \left(-\frac{1}{6} c c_{1,0}^2 - \frac{1}{3} e c_{1,0}^2 \right) S2 + \frac{1}{6} - E c_{2,0} \right. \right. \right. \\
& \left. \left. \left. + \frac{1}{3} b c_{1,0}^2 + 8 F_{c2,0} + 20 G_{c2,0} + \frac{4}{3} J_{c2,0} - \frac{1}{3} C c_{2,0} \right) K^8 + \left(\left(-\frac{8}{9} G_{c2,0} + \frac{2}{9} A_{c2,0} \right. \right. \right. \right. \\
& \left. \left. \left. + \frac{2}{9} B_{c2,0} - \frac{4}{9} F_{c2,0} + \frac{4}{9} H_{c2,0} \right) \lambda^2 + \left(-\frac{4}{9} F_{c2,0} - \frac{8}{3} G_{c2,0} + 4 H_{c2,0} \right. \right. \right. \\
& \left. \left. \left. + \frac{8}{9} J_{c2,0} \right) \lambda^2 + \left(\frac{1}{9} c c_{1,0}^2 + \frac{2}{9} e c_{1,0}^2 \right) S2 - \frac{1}{9} + \frac{2}{3} E c_{2,0} - \frac{2}{9} b c_{1,0}^2 - 2 F_{c2,0} \right. \right. \\
& \left. \left. \left. - \frac{50}{9} G_{c2,0} - \frac{50}{9} H_{c2,0} - 2 J_{c2,0} + \frac{2}{9} C c_{2,0} \right) K^6 + \left(\left(-\frac{8}{9} G_{c2,0} + \frac{2}{9} A_{c2,0} \right. \right. \right. \right. \\
& \left. \left. \left. + \frac{2}{9} B_{c2,0} - \frac{4}{9} F_{c2,0} + \frac{4}{9} H_{c2,0} \right) \lambda^2 + \left(-\frac{4}{9} F_{c2,0} - \frac{8}{3} G_{c2,0} + 4 H_{c2,0} \right. \right. \right. \\
& \left. \left. \left. + \frac{8}{9} J_{c2,0} \right) \lambda^2 + \left(\frac{1}{9} c c_{1,0}^2 + \frac{2}{9} e c_{1,0}^2 \right) S2 - \frac{1}{9} + \frac{2}{3} E c_{2,0} - \frac{2}{9} b c_{1,0}^2 - 2 F_{c2,0} \right. \right. \\
& \left. \left. \left. - \frac{50}{9} G_{c2,0} - \frac{50}{9} H_{c2,0} - 2 J_{c2,0} + \frac{2}{9} C c_{2,0} \right) K^4 + \left(\left(-\frac{8}{9} G_{c2,0} + \frac{2}{9} A_{c2,0} \right. \right. \right. \right. \\
& \left. \left. \left. + \frac{2}{9} B_{c2,0} - \frac{4}{9} F_{c2,0} + \frac{4}{9} H_{c2,0} \right) \lambda^2 + \left(-\frac{4}{9} F_{c2,0} - \frac{8}{3} G_{c2,0} + 4 H_{c2,0} \right. \right. \right. \\
& \left. \left. \left. + \frac{8}{9} J_{c2,0} \right) \lambda^2 + \left(\frac{1}{9} c c_{1,0}^2 + \frac{2}{9} e c_{1,0}^2 \right) S2 - \frac{1}{9} + \frac{2}{3} E c_{2,0} - \frac{2}{9} b c_{1,0}^2 - 2 F_{c2,0} \right.
\end{aligned}$$

$$\begin{aligned}
& -\frac{50}{9} G_{c_{2,0}} - \frac{50}{9} H_{c_{2,0}} - 2 J_{c_{2,0}} + \frac{2}{9} C_{c_{2,0}} \Big) K^2 + \left(\frac{2}{3} F_{c_{2,0}} - \frac{1}{3} A_{c_{2,0}} - \frac{2}{3} H_{c_{2,0}} \right. \\
& - \frac{1}{3} B_{c_{2,0}} + \frac{4}{3} G_{c_{2,0}} \Big) \lambda^2 + \left(\frac{1}{3} J_{c_{2,0}} - \frac{13}{3} F_{c_{2,0}} - \frac{23}{3} G_{c_{2,0}} + \frac{7}{3} H_{c_{2,0}} \right) \lambda + \left(\right. \\
& - \frac{1}{6} c c_{1,0}^2 - \frac{1}{3} e c_{1,0}^2 \Big) S_2 + \frac{1}{3} b c_{1,0}^2 + \frac{1}{6} + \frac{14}{3} J_{c_{2,0}} - \frac{1}{3} C_{c_{2,0}} - E_{c_{2,0}} - 2 F_{c_{2,0}} \\
& - \frac{10}{3} G_{c_{2,0}} + \frac{50}{3} H_{c_{2,0}} \Big) L_{c_{2,0}}(t) + L_{2,0}(t) \left(\left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} \right. \right. \right. \\
& + \frac{2}{3} H_{2,0} \Big) \lambda^2 + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \right) \lambda - 20 G_{2,0} - 8 F_{2,0} \\
& - \frac{4}{3} J_{2,0} + E_{2,0} + \frac{1}{3} C_{2,0} \Big) K^8 + \left(\left(-\frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} - \frac{2}{9} B_{2,0} - \frac{2}{9} A_{2,0} \right. \right. \\
& + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \left(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} + \frac{8}{3} G_{2,0} \right) \lambda + 2 J_{2,0} + \frac{50}{9} H_{2,0} \\
& - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^6 + \left(\left(-\frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} - \frac{2}{9} B_{2,0} \right. \right. \\
& - \frac{2}{9} A_{2,0} + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \left(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} + \frac{8}{3} G_{2,0} \right) \lambda + 2 J_{2,0} \\
& + \frac{50}{9} H_{2,0} - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^4 + \left(\left(-\frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} \right. \right. \\
& - \frac{2}{9} B_{2,0} - \frac{2}{9} A_{2,0} + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \left(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} + \frac{8}{3} G_{2,0} \right) \lambda \\
& + 2 J_{2,0} + \frac{50}{9} H_{2,0} - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^2 + \left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} \right. \\
& + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \Big) \lambda^2 + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \right) \lambda \\
& + \frac{1}{3} C_{2,0} + E_{2,0} + 2 F_{2,0} + \frac{10}{3} G_{2,0} - \frac{50}{3} H_{2,0} - \frac{14}{3} J_{2,0} \Big) \Big) \lambda \Big) / \left(\lambda (K \right. \\
& - 1) K^6 \left((\lambda - 1) (\lambda - 1) K^{12} + 2 (\lambda - 1) (\lambda - 1) K^{10} + 3 (\lambda - 1) (\lambda - 1) K^8 \right. \\
& + (12 \lambda - 3 \lambda) K^6 - 3 (\lambda + 1) (\lambda + 1) K^4 - 2 (\lambda + 1) (\lambda + 1) K^2 - (\lambda \\
& + 1) (\lambda + 1) \Big) (K + 1) \Big) :
\end{aligned}$$

$$\begin{aligned}
> A_{c_{4,1}} := \frac{1}{16} \Big(10 \lambda K^4 \left((\lambda - 1) (\lambda - 1) K^{14} + (\lambda - 1) (\lambda - 1) K^{12} + (\lambda - 1) (\lambda \right. \\
& - 1) K^{10} - 3 (\lambda - 5) (\lambda - 1) K^8 + \left((-3 \lambda + 3) \lambda - 15 \lambda + 9 \right) K^6 + (\lambda \\
& + 1) (\lambda + 1) K^4 + (\lambda + 1) (\lambda + 1) K^2 + (\lambda + 1) (\lambda + 1) \Big) \left(\frac{d}{dt} M_{4,1}(t) \right) \\
& - 30 \lambda K^6 \left((\lambda - 1) K^8 + \lambda + 1 \right) \left(\frac{d}{dt} L_{4,1}(t) \right) + \left(-34 \left(\left(-\frac{1}{17} B_{c_{2,0}} \right. \right. \right. \\
& + \frac{4}{17} G_{c_{2,0}} \Big) \lambda + B_{c_{2,0}} \lambda - \frac{10}{17} B_{c_{2,0}} - \frac{13}{17} G_{c_{2,0}} \Big) \lambda (\lambda - 1) K^{20} - 22 \left(\left(\right. \right. \\
& - \frac{1}{11} A_{c_{2,0}} - \frac{1}{11} B_{c_{2,0}} + \frac{2}{11} F_{c_{2,0}} + \frac{4}{11} G_{c_{2,0}} \Big) \lambda^2 + \left(\left(A_{c_{2,0}} + \frac{17}{11} B_{c_{2,0}} \right) \lambda \right. \\
& - \frac{6}{11} A_{c_{2,0}} - \frac{10}{11} B_{c_{2,0}} - \frac{7}{11} F_{c_{2,0}} - \frac{13}{11} G_{c_{2,0}} \Big) \lambda + \frac{1}{22} S_2 \left(S_1 a c_{1,0}^2 - c c_{1,0}^2 \right) \Big) (\lambda \\
& - 1) K^{18} - 22 (\lambda - 1) \left(\left(-\frac{1}{11} A_{c_{2,0}} - \frac{1}{11} B_{c_{2,0}} + \frac{2}{11} F_{c_{2,0}} + \frac{4}{11} G_{c_{2,0}} \right) \lambda^2 \right.
\end{aligned}$$

$$\begin{aligned}
& + \left(\left(Ac_{2,0} + \frac{17}{11} Bc_{2,0} \right) \lambda l - \frac{6}{11} Ac_{2,0} - \frac{10}{11} Bc_{2,0} - \frac{7}{11} Fc_{2,0} - \frac{13}{11} Gc_{2,0} \right. \\
& \left. - \frac{13}{11} Jc_{2,0} \right) \lambda^2 + \frac{1}{22} S2 \left(Sl ac_{1,0}^2 - cc_{1,0}^2 \right) K^{16} + \left(\left(2 Ac_{2,0} - 6 Bc_{2,0} - 4 Fc_{2,0} \right. \right. \\
& \left. \left. + 24 Gc_{2,0} + 4 Hc_{2,0} \right) \lambda^3 + \left(\left(-22 Ac_{2,0} + 102 Bc_{2,0} \right) \lambda l + 10 Ac_{2,0} + 30 Bc_{2,0} \right. \right. \\
& \left. \left. + 18 Fc_{2,0} - 258 Gc_{2,0} + 82 Hc_{2,0} + 26 Jc_{2,0} \right) \lambda^2 + \left(\left(22 Ac_{2,0} - 510 Bc_{2,0} \right) \lambda l + \left(-Sl \right. \right. \\
& \left. \left. ac_{1,0}^2 + cc_{1,0}^2 + 2 ec_{1,0}^2 \right) S2 - 12 Ac_{2,0} + 60 Bc_{2,0} - 14 Fc_{2,0} + 630 Gc_{2,0} - 86 Hc_{2,0} \right. \\
& \left. \left. - 26 Jc_{2,0} \right) \lambda^2 + \left(Sl ac_{1,0}^2 - cc_{1,0}^2 - 2 ec_{1,0}^2 \right) S2 \right) K^{14} + \left(\left(-6 Ac_{2,0} - 6 Bc_{2,0} + 12 Fc_{2,0} \right. \right. \\
& \left. \left. + 24 Gc_{2,0} + 4 Hc_{2,0} \right) \lambda^3 + \left(\left(66 Ac_{2,0} + 102 Bc_{2,0} \right) \lambda l + 30 Ac_{2,0} - 30 Bc_{2,0} \right. \right. \\
& \left. \left. - 138 Fc_{2,0} - 18 Gc_{2,0} + 82 Hc_{2,0} + 26 Jc_{2,0} \right) \lambda^2 + \left(\left(-330 Ac_{2,0} + 510 Bc_{2,0} \right) \lambda l \right. \right. \\
& \left. \left. + \left(3 Sl ac_{1,0}^2 - 3 cc_{1,0}^2 + 2 ec_{1,0}^2 \right) S2 + 36 Ac_{2,0} + 60 Bc_{2,0} + 354 Fc_{2,0} - 330 Gc_{2,0} \right. \right. \\
& \left. \left. - 86 Hc_{2,0} - 26 Jc_{2,0} \right) \lambda^2 - 15 S2 \left(ac_{1,0}^2 Sl - cc_{1,0}^2 + \frac{2}{15} ec_{1,0}^2 \right) \right) K^{12} + \left(\left(-6 Ac_{2,0} \right. \right. \\
& \left. \left. + 2 Bc_{2,0} + 12 Fc_{2,0} - 8 Gc_{2,0} + 4 Hc_{2,0} \right) \lambda^3 + \left(\left(66 Ac_{2,0} - 34 Bc_{2,0} \right) \lambda l - 30 Ac_{2,0} \right. \right. \\
& \left. \left. - 18 Bc_{2,0} - 18 Fc_{2,0} - 82 Gc_{2,0} + 82 Hc_{2,0} + 6 Jc_{2,0} \right) \lambda^2 + \left(\left(330 Ac_{2,0} - 34 Bc_{2,0} \right) \lambda l \right. \right. \\
& \left. \left. + \left(3 Sl ac_{1,0}^2 - 3 cc_{1,0}^2 + 2 ec_{1,0}^2 \right) S2 + 36 Ac_{2,0} - 20 Bc_{2,0} - 246 Fc_{2,0} - 74 Gc_{2,0} \right. \right. \\
& \left. \left. - 86 Hc_{2,0} + 54 Jc_{2,0} \right) \lambda^2 + 15 S2 \left(ac_{1,0}^2 Sl - cc_{1,0}^2 - \frac{2}{15} ec_{1,0}^2 \right) \right) K^{10} + \left(\left(2 Ac_{2,0} \right. \right. \\
& \left. \left. + 2 Bc_{2,0} - 4 Fc_{2,0} - 8 Gc_{2,0} - 12 Hc_{2,0} \right) \lambda^3 + \left(\left(-22 Ac_{2,0} - 34 Bc_{2,0} \right) \lambda l - 10 Ac_{2,0} \right. \right. \\
& \left. \left. - 18 Bc_{2,0} - 26 Fc_{2,0} - 82 Gc_{2,0} + 102 Hc_{2,0} + 6 Jc_{2,0} \right) \lambda^2 + \left(\left(-22 Ac_{2,0} \right. \right. \\
& \left. \left. - 34 Bc_{2,0} \right) \lambda l + \left(-Sl ac_{1,0}^2 + cc_{1,0}^2 - 6 ec_{1,0}^2 \right) S2 - 12 Ac_{2,0} - 20 Bc_{2,0} - 22 Fc_{2,0} \right. \\
& \left. \left. - 74 Gc_{2,0} + 90 Hc_{2,0} + 54 Jc_{2,0} \right) \lambda^2 - S2 \left(Sl ac_{1,0}^2 - cc_{1,0}^2 - 30 ec_{1,0}^2 \right) \right) K^8 + \left(\left(2 Ac_{2,0} \right. \right. \\
& \left. \left. + 2 Bc_{2,0} - 4 Fc_{2,0} - 8 Gc_{2,0} - 12 Hc_{2,0} \right) \lambda^3 + \left(\left(-22 Ac_{2,0} - 34 Bc_{2,0} \right) \lambda l - 10 Ac_{2,0} \right. \right. \\
& \left. \left. - 18 Bc_{2,0} - 26 Fc_{2,0} - 82 Gc_{2,0} - 18 Hc_{2,0} - 10 Jc_{2,0} \right) \lambda^2 + \left(\left(-22 Ac_{2,0} \right. \right. \\
& \left. \left. - 34 Bc_{2,0} \right) \lambda l + \left(-Sl ac_{1,0}^2 + cc_{1,0}^2 - 6 ec_{1,0}^2 \right) S2 - 12 Ac_{2,0} - 20 Bc_{2,0} - 22 Fc_{2,0} \right. \\
& \left. \left. - 74 Gc_{2,0} + 210 Hc_{2,0} - 10 Jc_{2,0} \right) \lambda^2 - S2 \left(Sl ac_{1,0}^2 - cc_{1,0}^2 + 30 ec_{1,0}^2 \right) \right) K^6 - 22 \left(\lambda^2 \right. \\
& \left. + 1 \right) \left(\left(-\frac{1}{11} Ac_{2,0} + \frac{2}{11} Fc_{2,0} - \frac{2}{11} Hc_{2,0} \right) \lambda^2 + \left(\lambda l Ac_{2,0} + \frac{6}{11} Ac_{2,0} + Fc_{2,0} \right. \right. \\
& \left. \left. + \frac{7}{11} Hc_{2,0} + \frac{5}{11} Jc_{2,0} \right) \lambda^2 + \frac{1}{22} \left(Sl ac_{1,0}^2 - cc_{1,0}^2 - 2 ec_{1,0}^2 \right) S2 \right) K^4 + 4 \left(\lambda^2 Hc_{2,0} \right.
\end{aligned}$$

$$\begin{aligned}
& + \left(-\frac{7}{2} H_{c_{2,0}} - \frac{5}{2} J_{c_{2,0}} \right) \lambda^2 + \frac{1}{2} S_2 e c_{1,0}^2 \left((\lambda^2 + 1) K^2 + 4 (\lambda^2 + 1) \left(\lambda^2 H_{c_{2,0}} \right. \right. \\
& + \left. \left. \frac{1}{2} S_2 e c_{1,0}^2 - \frac{7}{2} \lambda^2 H_{c_{2,0}} \right) \right) M_{2,0}(t) - 8 \lambda^2 \left(\left((\lambda^2 - 1) \left(\left(G_{2,0} - \frac{1}{4} B_{2,0} \right) \lambda^2 \right. \right. \right. \\
& + \left. \left. \frac{17}{4} \lambda B_{2,0} - \frac{13}{4} G_{2,0} - \frac{5}{2} B_{2,0} \right) K^{20} + \frac{1}{2} \left(\left(F_{2,0} + 2 G_{2,0} - \frac{1}{2} A_{2,0} \right. \right. \right. \\
& - \left. \left. \frac{1}{2} B_{2,0} \right) \lambda^2 + \left(\frac{11}{2} A_{2,0} + \frac{17}{2} B_{2,0} \right) \lambda I - \frac{7}{2} F_{2,0} - \frac{13}{2} G_{2,0} - 3 A_{2,0} - 5 B_{2,0} \right) (\lambda^2 \\
& - 1) K^{18} + \frac{1}{2} (\lambda^2 - 1) \left(\left(F_{2,0} + 2 G_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) \lambda^2 + \left(\frac{11}{2} A_{2,0} \right. \right. \\
& + \left. \left. \frac{17}{2} B_{2,0} \right) \lambda I - \frac{7}{2} F_{2,0} - \frac{13}{2} G_{2,0} - \frac{13}{2} J_{2,0} - 3 A_{2,0} - 5 B_{2,0} \right) K^{16} + \left(\left(-\frac{1}{2} H_{2,0} \right. \right. \\
& - 3 G_{2,0} + \frac{3}{4} B_{2,0} - \frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} \right) \lambda^2 + \left(\left(\frac{11}{4} A_{2,0} - \frac{51}{4} B_{2,0} \right) \lambda I - \frac{9}{4} F_{2,0} \right. \\
& - \frac{5}{4} A_{2,0} - \frac{13}{4} J_{2,0} - \frac{41}{4} H_{2,0} - \frac{15}{4} B_{2,0} + \frac{129}{4} G_{2,0} \right) \lambda^2 + \left(-\frac{11}{4} A_{2,0} \right. \\
& + \left. \frac{255}{4} B_{2,0} \right) \lambda I - \frac{315}{4} G_{2,0} + \frac{7}{4} F_{2,0} + \frac{13}{4} J_{2,0} + \frac{43}{4} H_{2,0} + \frac{3}{2} A_{2,0} - \frac{15}{2} B_{2,0} \Big) \\
& K^{14} + \left(\left(\frac{3}{4} B_{2,0} - \frac{1}{2} H_{2,0} - 3 G_{2,0} + \frac{3}{4} A_{2,0} - \frac{3}{2} F_{2,0} \right) \lambda^2 + \left(-\frac{33}{4} A_{2,0} \right. \right. \\
& - \left. \left. \frac{51}{4} B_{2,0} \right) \lambda I + \frac{9}{4} G_{2,0} - \frac{13}{4} J_{2,0} + \frac{69}{4} F_{2,0} - \frac{15}{4} A_{2,0} - \frac{41}{4} H_{2,0} + \frac{15}{4} B_{2,0} \right) \lambda^2 \\
& + \left(-\frac{255}{4} B_{2,0} + \frac{165}{4} A_{2,0} \right) \lambda I - \frac{177}{4} F_{2,0} + \frac{43}{4} H_{2,0} + \frac{13}{4} J_{2,0} + \frac{165}{4} G_{2,0} \\
& - \frac{9}{2} A_{2,0} - \frac{15}{2} B_{2,0} \Big) K^{12} + \left(\left(\frac{3}{4} A_{2,0} - \frac{3}{2} F_{2,0} - \frac{1}{4} B_{2,0} + G_{2,0} - \frac{1}{2} H_{2,0} \right) \lambda^2 \right. \\
& + \left(\left(\frac{17}{4} B_{2,0} - \frac{33}{4} A_{2,0} \right) \lambda I + \frac{9}{4} F_{2,0} + \frac{41}{4} G_{2,0} - \frac{41}{4} H_{2,0} + \frac{15}{4} A_{2,0} - \frac{3}{4} J_{2,0} \right. \\
& + \left. \frac{9}{4} B_{2,0} \right) \lambda^2 + \left(\frac{17}{4} B_{2,0} - \frac{165}{4} A_{2,0} \right) \lambda I - \frac{27}{4} J_{2,0} + \frac{43}{4} H_{2,0} + \frac{123}{4} F_{2,0} \\
& + \frac{37}{4} G_{2,0} - \frac{9}{2} A_{2,0} + \frac{5}{2} B_{2,0} \Big) K^{10} + \left(\left(-\frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} - \frac{1}{4} B_{2,0} + G_{2,0} \right. \right. \\
& + \left. \left. \frac{3}{2} H_{2,0} \right) \lambda^2 + \left(\left(\frac{17}{4} B_{2,0} + \frac{11}{4} A_{2,0} \right) \lambda I + \frac{13}{4} F_{2,0} - \frac{3}{4} J_{2,0} + \frac{9}{4} B_{2,0} \right. \right. \\
& + \left. \frac{41}{4} G_{2,0} + \frac{5}{4} A_{2,0} - \frac{51}{4} H_{2,0} \right) \lambda^2 + \left(\frac{17}{4} B_{2,0} + \frac{11}{4} A_{2,0} \right) \lambda I - \frac{45}{4} H_{2,0} + \frac{5}{2} B_{2,0} \\
& + \frac{37}{4} G_{2,0} + \frac{11}{4} F_{2,0} - \frac{27}{4} J_{2,0} + \frac{3}{2} A_{2,0} \Big) K^8 + \left(\left(-\frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} - \frac{1}{4} B_{2,0} \right. \right. \\
& + \left. \left. G_{2,0} + \frac{3}{2} H_{2,0} \right) \lambda^2 + \left(\left(\frac{17}{4} B_{2,0} + \frac{11}{4} A_{2,0} \right) \lambda I + \frac{9}{4} H_{2,0} + \frac{5}{4} J_{2,0} + \frac{5}{4} A_{2,0} \right. \right. \\
& + \left. \frac{13}{4} F_{2,0} + \frac{41}{4} G_{2,0} + \frac{9}{4} B_{2,0} \right) \lambda^2 + \left(\frac{17}{4} B_{2,0} + \frac{11}{4} A_{2,0} \right) \lambda I + \frac{37}{4} G_{2,0} + \frac{3}{2} A_{2,0} \\
& + \frac{11}{4} F_{2,0} - \frac{105}{4} H_{2,0} + \frac{5}{4} J_{2,0} + \frac{5}{2} B_{2,0} \Big) K^6 + \frac{1}{2} (\lambda^2 + 1) \left(\left(F_{2,0} - H_{2,0} \right. \right. \\
& - \left. \left. \frac{1}{2} A_{2,0} \right) \lambda^2 + \frac{11}{2} \lambda I A_{2,0} + \frac{11}{2} F_{2,0} + \frac{7}{2} H_{2,0} + \frac{5}{2} J_{2,0} + 3 A_{2,0} \right) K^4 - \frac{1}{2} (\lambda^2 \\
& + 1) \left(\lambda^2 H_{2,0} - \frac{7}{2} H_{2,0} - \frac{5}{2} J_{2,0} \right) K^2 - \frac{1}{2} H_{2,0} \left(\lambda^2 - \frac{7}{2} \right) (\lambda^2 + 1) \Big) M_{c_{2,0}}(t)
\end{aligned}$$

$$\begin{aligned}
& -\frac{9}{4} \left(\left(\left(\left(-\frac{2}{3} F_{c_{2,0}} + \frac{1}{3} A_{c_{2,0}} + \frac{2}{3} H_{c_{2,0}} + \frac{1}{3} B_{c_{2,0}} - \frac{4}{3} G_{c_{2,0}} \right) \lambda^2 + \left(-\frac{1}{3} J_{c_{2,0}} \right. \right. \right. \right. \\
& + \frac{13}{3} F_{c_{2,0}} + \frac{23}{3} G_{c_{2,0}} - \frac{7}{3} H_{c_{2,0}} \Big) \lambda^2 + \left(\frac{1}{6} c c_{1,0}^2 + \frac{1}{3} e c_{1,0}^2 \right) S_2 - \frac{1}{6} + E_{c_{2,0}} - \frac{1}{3} \\
& b c_{1,0}^2 - 8 F_{c_{2,0}} - 20 G_{c_{2,0}} - \frac{4}{3} J_{c_{2,0}} + \frac{1}{3} C_{c_{2,0}} \Big) K^8 + \left(\left(\frac{8}{9} G_{c_{2,0}} - \frac{2}{9} A_{c_{2,0}} \right. \right. \\
& - \frac{2}{9} B_{c_{2,0}} + \frac{4}{9} F_{c_{2,0}} - \frac{4}{9} H_{c_{2,0}} \Big) \lambda^2 + \left(\frac{4}{9} F_{c_{2,0}} + \frac{8}{3} G_{c_{2,0}} - 4 H_{c_{2,0}} - \frac{8}{9} J_{c_{2,0}} \Big) \lambda^2 \\
& + \left(-\frac{1}{9} c c_{1,0}^2 - \frac{2}{9} e c_{1,0}^2 \right) S_2 + \frac{1}{9} - \frac{2}{3} E_{c_{2,0}} + \frac{2}{9} b c_{1,0}^2 + 2 F_{c_{2,0}} + \frac{50}{9} G_{c_{2,0}} \\
& + \frac{50}{9} H_{c_{2,0}} + 2 J_{c_{2,0}} - \frac{2}{9} C_{c_{2,0}} \Big) K^6 + \left(\left(\frac{8}{9} G_{c_{2,0}} - \frac{2}{9} A_{c_{2,0}} - \frac{2}{9} B_{c_{2,0}} + \frac{4}{9} F_{c_{2,0}} \right. \right. \\
& - \frac{4}{9} H_{c_{2,0}} \Big) \lambda^2 + \left(\frac{4}{9} F_{c_{2,0}} + \frac{8}{3} G_{c_{2,0}} - 4 H_{c_{2,0}} - \frac{8}{9} J_{c_{2,0}} \Big) \lambda^2 + \left(-\frac{1}{9} c c_{1,0}^2 - \frac{2}{9} \right. \\
& e c_{1,0}^2 \Big) S_2 + \frac{1}{9} - \frac{2}{3} E_{c_{2,0}} + \frac{2}{9} b c_{1,0}^2 + 2 F_{c_{2,0}} + \frac{50}{9} G_{c_{2,0}} + \frac{50}{9} H_{c_{2,0}} + 2 J_{c_{2,0}} \\
& - \frac{2}{9} C_{c_{2,0}} \Big) K^4 + \left(\left(\frac{8}{9} G_{c_{2,0}} - \frac{2}{9} A_{c_{2,0}} - \frac{2}{9} B_{c_{2,0}} + \frac{4}{9} F_{c_{2,0}} - \frac{4}{9} H_{c_{2,0}} \right) \lambda^2 \right. \\
& + \left(\frac{4}{9} F_{c_{2,0}} + \frac{8}{3} G_{c_{2,0}} - 4 H_{c_{2,0}} - \frac{8}{9} J_{c_{2,0}} \Big) \lambda^2 + \left(-\frac{1}{9} c c_{1,0}^2 - \frac{2}{9} e c_{1,0}^2 \right) S_2 + \frac{1}{9} \\
& - \frac{2}{3} E_{c_{2,0}} + \frac{2}{9} b c_{1,0}^2 + 2 F_{c_{2,0}} + \frac{50}{9} G_{c_{2,0}} + \frac{50}{9} H_{c_{2,0}} + 2 J_{c_{2,0}} - \frac{2}{9} C_{c_{2,0}} \Big) K^2 + \left(\right. \\
& - \frac{2}{3} F_{c_{2,0}} + \frac{1}{3} A_{c_{2,0}} + \frac{2}{3} H_{c_{2,0}} + \frac{1}{3} B_{c_{2,0}} - \frac{4}{3} G_{c_{2,0}} \Big) \lambda^2 + \left(-\frac{1}{3} J_{c_{2,0}} + \frac{13}{3} F_{c_{2,0}} \right. \\
& + \frac{23}{3} G_{c_{2,0}} - \frac{7}{3} H_{c_{2,0}} \Big) \lambda^2 + \left(\frac{1}{6} c c_{1,0}^2 + \frac{1}{3} e c_{1,0}^2 \right) S_2 - \frac{1}{3} b c_{1,0}^2 - \frac{1}{6} - \frac{14}{3} J_{c_{2,0}} \\
& + \frac{1}{3} C_{c_{2,0}} + E_{c_{2,0}} + 2 F_{c_{2,0}} + \frac{10}{3} G_{c_{2,0}} - \frac{50}{3} H_{c_{2,0}} \Big) L_{2,0}(t) + L_{c_{2,0}}(t) \left(\left(\left(\frac{1}{3} A_{2,0} \right. \right. \right. \\
& - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \Big) \lambda^2 + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} + \frac{23}{3} G_{2,0} \right. \\
& - \frac{7}{3} H_{2,0} \Big) \lambda^2 - 20 G_{2,0} - 8 F_{2,0} - \frac{4}{3} J_{2,0} + E_{2,0} + \frac{1}{3} C_{2,0} \Big) K^8 + \left(\left(-\frac{4}{9} H_{2,0} \right. \right. \\
& + \frac{8}{9} G_{2,0} - \frac{2}{9} B_{2,0} - \frac{2}{9} A_{2,0} + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \left(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} \right. \\
& + \frac{8}{3} G_{2,0} \Big) \lambda^2 + 2 J_{2,0} + \frac{50}{9} H_{2,0} - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^6 + \left(\left(\right. \right. \\
& - \frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} - \frac{2}{9} B_{2,0} - \frac{2}{9} A_{2,0} + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \left(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} \right. \\
& + \frac{8}{3} G_{2,0} \Big) \lambda^2 + 2 J_{2,0} + \frac{50}{9} H_{2,0} - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^4 + \left(\left(\right. \right. \\
& - \frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} - \frac{2}{9} B_{2,0} - \frac{2}{9} A_{2,0} + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \left(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} \right. \\
& + \frac{8}{3} G_{2,0} \Big) \lambda^2 + 2 J_{2,0} + \frac{50}{9} H_{2,0} - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^2 \\
& + \left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \right) \lambda^2 + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} \right. \\
& + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \Big) \lambda^2 + \frac{1}{3} C_{2,0} + E_{2,0} + 2 F_{2,0} + \frac{10}{3} G_{2,0} - \frac{50}{3} H_{2,0} - \frac{14}{3} J_{2,0} \Big)
\end{aligned}$$

$$\left. \right) K^6 \Big) \Big) \Big/ \left(\lambda^2 (K-1) K^6 \left((\lambda^2-1) (\lambda-1) K^{12} + 2 (\lambda^2-1) (\lambda-1) K^{10} + 3 (\lambda^2-1) (\lambda-1) K^8 + (12\lambda-3\lambda^2) K^6 - 3 (\lambda^2+1) (\lambda+1) K^4 - 2 (\lambda^2+1) (\lambda+1) K^2 - (\lambda^2+1) (\lambda+1) \right) (K+1) \right) :$$

$$\begin{aligned} > B_{4,1} := \frac{1}{16} \Big(6\lambda^2 K^4 \left((\lambda^2-1) (\lambda-1) K^{14} + (\lambda^2-1) (\lambda-1) K^{12} + (\lambda^2-1) (\lambda-1) K^{10} + ((-3\lambda+5)\lambda^2 + 15\lambda - 23) K^8 + ((-3\lambda+5)\lambda^2 - 15\lambda + 17) K^6 + (\lambda^2+1) (\lambda+1) K^4 + (\lambda^2+1) (\lambda+1) K^2 + (\lambda^2+1) (\lambda+1) \right) \\ & \left(\frac{d}{dt} Mc_{4,1}(t) \right) - 30\lambda^2 K^6 \left((\lambda^2-1) K^8 + \lambda^2+1 \right) \left(\frac{d}{dt} Lc_{4,1}(t) \right) + \left(-6 \left(\left(-\frac{1}{3} Bc_{2,0} + \frac{4}{3} Gc_{2,0} \right) \lambda^2 + Bc_{2,0} \lambda + \frac{4}{3} Bc_{2,0} - \frac{13}{3} Gc_{2,0} \right) \lambda^2 (\lambda^2-1) K^{20} - 10 (\lambda^2-1) \left(\left(-\frac{1}{5} Ac_{2,0} - \frac{1}{5} Bc_{2,0} + \frac{2}{5} Fc_{2,0} + \frac{4}{5} Gc_{2,0} \right) \lambda^2 + \left(\left(Ac_{2,0} + \frac{3}{5} Bc_{2,0} \right) \lambda + \frac{4}{5} Bc_{2,0} - \frac{7}{5} Fc_{2,0} - \frac{13}{5} Gc_{2,0} \right) \lambda^2 + \frac{1}{10} S2 \left(SI ac_{1,0}^2 - cc_{1,0}^2 \right) \right) K^{18} - 10 \left(\left(-\frac{1}{5} Ac_{2,0} - \frac{1}{5} Bc_{2,0} + \frac{2}{5} Fc_{2,0} + \frac{4}{5} Gc_{2,0} \right) \lambda^2 + \left(\left(Ac_{2,0} + \frac{3}{5} Bc_{2,0} \right) \lambda + \frac{4}{5} Bc_{2,0} - \frac{7}{5} Fc_{2,0} - \frac{13}{5} Gc_{2,0} - \frac{13}{5} Jc_{2,0} \right) \lambda^2 + \frac{1}{10} S2 \left(SI ac_{1,0}^2 - cc_{1,0}^2 \right) \right) (\lambda^2-1) K^{16} + \left((2Ac_{2,0} - 6Bc_{2,0} - 4Fc_{2,0} + 24Gc_{2,0} + 4Hc_{2,0}) \lambda^3 + ((-10Ac_{2,0} + 18Bc_{2,0}) \lambda - 2Ac_{2,0} + 30Bc_{2,0} + 18Fc_{2,0} - 258Gc_{2,0} + 82Hc_{2,0} + 26Jc_{2,0}) \lambda^2 + ((10Ac_{2,0} - 90Bc_{2,0}) \lambda + (-SI ac_{1,0}^2 + cc_{1,0}^2 + 2ec_{1,0}^2) S2 - 24Bc_{2,0} - 14Fc_{2,0} + 630Gc_{2,0} - 86Hc_{2,0} - 26Jc_{2,0}) \lambda^2 + (SI ac_{1,0}^2 - cc_{1,0}^2 - 2ec_{1,0}^2) S2 \right) K^{14} + \left((-6Ac_{2,0} - 6Bc_{2,0} + 12Fc_{2,0} + 24Gc_{2,0} + 4Hc_{2,0}) \lambda^3 + ((30Ac_{2,0} + 18Bc_{2,0}) \lambda + 30Ac_{2,0} - 30Bc_{2,0} - 138Fc_{2,0} - 18Gc_{2,0} + 82Hc_{2,0} + 26Jc_{2,0}) \lambda^2 + ((-150Ac_{2,0} + 90Bc_{2,0}) \lambda + (3SI ac_{1,0}^2 - 3cc_{1,0}^2 + 2ec_{1,0}^2) S2 - 24Bc_{2,0} + 354Fc_{2,0} - 330Gc_{2,0} - 86Hc_{2,0} - 26Jc_{2,0}) \lambda^2 - 15S2 \left(ac_{1,0}^2 SI - cc_{1,0}^2 + \frac{2}{15} ec_{1,0}^2 \right) \right) K^{12} + \left((-6Ac_{2,0} + 2Bc_{2,0} + 12Fc_{2,0} - 8Gc_{2,0} + 4Hc_{2,0}) \lambda^3 + ((30Ac_{2,0} - 6Bc_{2,0}) \lambda - 30Ac_{2,0} + 10Bc_{2,0} - 18Fc_{2,0} - 82Gc_{2,0} + 82Hc_{2,0} + 6Jc_{2,0}) \lambda^2 + ((150Ac_{2,0} - 6Bc_{2,0}) \lambda + (3SI ac_{1,0}^2 - 3cc_{1,0}^2 + 2ec_{1,0}^2) S2 + 8Bc_{2,0} - 246Fc_{2,0} - 74Gc_{2,0} - 86Hc_{2,0} + 54Jc_{2,0}) \lambda^2 + 15S2 \left(ac_{1,0}^2 SI - cc_{1,0}^2 - \frac{2}{15} ec_{1,0}^2 \right) \right) K^{10} + \left((2Ac_{2,0} + 2Bc_{2,0} - 4Fc_{2,0} - 8Gc_{2,0} - 12Hc_{2,0}) \lambda^3 + ((-10Ac_{2,0} - 6Bc_{2,0}) \lambda + 2Ac_{2,0} + 10Bc_{2,0} - 26Fc_{2,0} - 82Gc_{2,0} \right. \end{aligned}$$

$$\begin{aligned}
& + 102 H_{c_{2,0}} + 6 J_{c_{2,0}} \lambda^2 + \left((-10 A_{c_{2,0}} - 6 B_{c_{2,0}}) \lambda l + (-S l a c_{1,0}^2 + c c_{1,0}^2 - 6 \right. \\
& e c_{1,0}^2) S 2 + 8 B_{c_{2,0}} - 22 F_{c_{2,0}} - 74 G_{c_{2,0}} + 90 H_{c_{2,0}} + 54 J_{c_{2,0}} \lambda - S 2 (S l a c_{1,0}^2 - c c_{1,0}^2 \\
& - 30 e c_{1,0}^2) \left. \right) K^8 + \left((2 A_{c_{2,0}} + 2 B_{c_{2,0}} - 4 F_{c_{2,0}} - 8 G_{c_{2,0}} - 12 H_{c_{2,0}}) \lambda^3 + \left(\right. \right. \\
& - 10 A_{c_{2,0}} - 6 B_{c_{2,0}} \lambda l + 2 A_{c_{2,0}} + 10 B_{c_{2,0}} - 26 F_{c_{2,0}} - 82 G_{c_{2,0}} - 18 H_{c_{2,0}} - 10 J_{c_{2,0}} \left. \right. \\
& \lambda^2 + \left((-10 A_{c_{2,0}} - 6 B_{c_{2,0}}) \lambda l + (-S l a c_{1,0}^2 + c c_{1,0}^2 - 6 e c_{1,0}^2) S 2 + 8 B_{c_{2,0}} - 22 F_{c_{2,0}} \right. \\
& - 74 G_{c_{2,0}} + 210 H_{c_{2,0}} - 10 J_{c_{2,0}} \left. \right) \lambda^2 - S 2 (S l a c_{1,0}^2 - c c_{1,0}^2 + 30 e c_{1,0}^2) \left. \right) K^6 - 10 (\lambda^2 \\
& + 1) \left(\left(-\frac{1}{5} A_{c_{2,0}} + \frac{2}{5} F_{c_{2,0}} - \frac{2}{5} H_{c_{2,0}} \right) \lambda^2 + \left(\lambda l A_{c_{2,0}} + \frac{11}{5} F_{c_{2,0}} + \frac{7}{5} H_{c_{2,0}} \right. \right. \\
& + J_{c_{2,0}} \left. \right) \lambda^2 + \frac{1}{10} (S l a c_{1,0}^2 - c c_{1,0}^2 - 2 e c_{1,0}^2) S 2 \left. \right) K^4 + 4 \left(\lambda^2 H_{c_{2,0}} + \left(-\frac{7}{2} H_{c_{2,0}} \right. \right. \\
& - \frac{5}{2} J_{c_{2,0}} \left. \right) \lambda^2 + \frac{1}{2} S 2 e c_{1,0}^2 \left. \right) (\lambda^2 + 1) K^2 + 4 (\lambda^2 + 1) \left(\lambda^2 H_{c_{2,0}} + \frac{1}{2} S 2 e c_{1,0}^2 \right. \\
& - \frac{7}{2} \lambda^2 H_{c_{2,0}} \left. \right) M c_{2,0}(t) + 8 \lambda^2 \left(\left((\lambda^2 - 1) \left(\left(G_{2,0} - \frac{1}{4} B_{2,0} \right) \lambda^2 + \frac{3}{4} \lambda l B_{2,0} \right. \right. \right. \\
& - \frac{13}{4} G_{2,0} + B_{2,0} \left. \right) K^{20} + \frac{1}{2} \left(\left(F_{2,0} + 2 G_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) \lambda^2 + \left(\frac{5}{2} A_{2,0} \right. \right. \\
& + \frac{3}{2} B_{2,0} \left. \right) \lambda l - \frac{7}{2} F_{2,0} - \frac{13}{2} G_{2,0} + 2 B_{2,0} \left. \right) (\lambda^2 - 1) K^{18} + \frac{1}{2} (\lambda^2 - 1) \left(\left(F_{2,0} \right. \right. \\
& + 2 G_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \left. \right) \lambda^2 + \left(\frac{5}{2} A_{2,0} + \frac{3}{2} B_{2,0} \right) \lambda l - \frac{7}{2} F_{2,0} - \frac{13}{2} G_{2,0} \\
& - \frac{13}{2} J_{2,0} + 2 B_{2,0} \left. \right) K^{16} + \left(\left(-\frac{1}{2} H_{2,0} - 3 G_{2,0} + \frac{3}{4} B_{2,0} - \frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} \right) \lambda^2 \right. \\
& + \left(\left(\frac{5}{4} A_{2,0} - \frac{9}{4} B_{2,0} \right) \lambda l - \frac{9}{4} F_{2,0} + \frac{1}{4} A_{2,0} - \frac{13}{4} J_{2,0} - \frac{41}{4} H_{2,0} - \frac{15}{4} B_{2,0} \right. \\
& + \frac{129}{4} G_{2,0} \left. \right) \lambda^2 + \left(-\frac{5}{4} A_{2,0} + \frac{45}{4} B_{2,0} \right) \lambda l - \frac{315}{4} G_{2,0} + \frac{7}{4} F_{2,0} + \frac{13}{4} J_{2,0} \\
& + \frac{43}{4} H_{2,0} + 3 B_{2,0} \left. \right) K^{14} + \left(\left(\frac{3}{4} B_{2,0} - \frac{1}{2} H_{2,0} - 3 G_{2,0} + \frac{3}{4} A_{2,0} - \frac{3}{2} F_{2,0} \right) \lambda^2 \right. \\
& + \left(\left(-\frac{15}{4} A_{2,0} - \frac{9}{4} B_{2,0} \right) \lambda l + \frac{9}{4} G_{2,0} - \frac{13}{4} J_{2,0} + \frac{69}{4} F_{2,0} - \frac{15}{4} A_{2,0} - \frac{41}{4} H_{2,0} \right. \\
& + \frac{15}{4} B_{2,0} \left. \right) \lambda^2 + \left(-\frac{45}{4} B_{2,0} + \frac{75}{4} A_{2,0} \right) \lambda l - \frac{177}{4} F_{2,0} + \frac{43}{4} H_{2,0} + \frac{13}{4} J_{2,0} \\
& + \frac{165}{4} G_{2,0} + 3 B_{2,0} \left. \right) K^{12} + \left(\left(\frac{3}{4} A_{2,0} - \frac{3}{2} F_{2,0} - \frac{1}{4} B_{2,0} + G_{2,0} - \frac{1}{2} H_{2,0} \right) \lambda^2 \right. \\
& + \left(\left(\frac{3}{4} B_{2,0} - \frac{15}{4} A_{2,0} \right) \lambda l + \frac{9}{4} F_{2,0} + \frac{41}{4} G_{2,0} - \frac{41}{4} H_{2,0} + \frac{15}{4} A_{2,0} - \frac{3}{4} J_{2,0} \right. \\
& - \frac{5}{4} B_{2,0} \left. \right) \lambda^2 + \left(\frac{3}{4} B_{2,0} - \frac{75}{4} A_{2,0} \right) \lambda l - \frac{27}{4} J_{2,0} + \frac{43}{4} H_{2,0} + \frac{123}{4} F_{2,0} \\
& + \frac{37}{4} G_{2,0} - B_{2,0} \left. \right) K^{10} + \left(\left(-\frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} - \frac{1}{4} B_{2,0} + G_{2,0} + \frac{3}{2} H_{2,0} \right) \lambda^2 \right. \\
& + \left(\left(\frac{3}{4} B_{2,0} + \frac{5}{4} A_{2,0} \right) \lambda l + \frac{13}{4} F_{2,0} - \frac{3}{4} J_{2,0} - \frac{5}{4} B_{2,0} + \frac{41}{4} G_{2,0} - \frac{1}{4} A_{2,0} \right.
\end{aligned}$$

$$\begin{aligned}
& -\frac{51}{4} H_{2,0} \Big) \lambda^2 + \left(\frac{3}{4} B_{2,0} + \frac{5}{4} A_{2,0} \right) \lambda l - \frac{45}{4} H_{2,0} - B_{2,0} + \frac{37}{4} G_{2,0} + \frac{11}{4} F_{2,0} \\
& - \frac{27}{4} J_{2,0} \Big) K^8 + \left(\left(-\frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} - \frac{1}{4} B_{2,0} + G_{2,0} + \frac{3}{2} H_{2,0} \right) \lambda^2 + \left(\left(\frac{3}{4} B_{2,0} \right. \right. \right. \\
& + \frac{5}{4} A_{2,0} \Big) \lambda l + \frac{9}{4} H_{2,0} + \frac{5}{4} J_{2,0} - \frac{1}{4} A_{2,0} + \frac{13}{4} F_{2,0} + \frac{41}{4} G_{2,0} - \frac{5}{4} B_{2,0} \Big) \lambda^2 \\
& + \left(\frac{3}{4} B_{2,0} + \frac{5}{4} A_{2,0} \right) \lambda l + \frac{37}{4} G_{2,0} + \frac{11}{4} F_{2,0} - \frac{105}{4} H_{2,0} + \frac{5}{4} J_{2,0} - B_{2,0} \Big) K^6 \\
& + \frac{1}{2} (\lambda^2 + 1) \left(\left(F_{2,0} - H_{2,0} - \frac{1}{2} A_{2,0} \right) \lambda^2 + \frac{5}{2} \lambda l A_{2,0} + \frac{11}{2} F_{2,0} + \frac{7}{2} H_{2,0} \right. \\
& + \frac{5}{2} J_{2,0} \Big) K^4 - \frac{1}{2} (\lambda^2 + 1) \left(\lambda^2 H_{2,0} - \frac{7}{2} H_{2,0} - \frac{5}{2} J_{2,0} \right) K^2 - \frac{1}{2} H_{2,0} \left(\lambda^2 \right. \\
& - \frac{7}{2} \Big) (\lambda^2 + 1) \Big) M_{2,0}(t) - \frac{9}{4} K^6 \left(\left(\left(\frac{2}{3} F_{c_{2,0}} - \frac{1}{3} A_{c_{2,0}} - \frac{2}{3} H_{c_{2,0}} - \frac{1}{3} B_{c_{2,0}} \right. \right. \right. \\
& + \frac{4}{3} G_{c_{2,0}} \Big) \lambda^2 + \left(\frac{1}{3} J_{c_{2,0}} - \frac{13}{3} F_{c_{2,0}} - \frac{23}{3} G_{c_{2,0}} + \frac{7}{3} H_{c_{2,0}} \right) \lambda^2 + \left(-\frac{1}{6} cc_{1,0}^2 \right. \\
& - \frac{1}{3} ec_{1,0}^2 \Big) S2 + \frac{1}{6} - Ec_{2,0} + \frac{1}{3} bc_{1,0}^2 + 8 F_{c_{2,0}} + 20 G_{c_{2,0}} + \frac{4}{3} J_{c_{2,0}} - \frac{1}{3} Cc_{2,0} \Big) K^8 \\
& + \left(\left(-\frac{8}{9} G_{c_{2,0}} + \frac{2}{9} A_{c_{2,0}} + \frac{2}{9} B_{c_{2,0}} - \frac{4}{9} F_{c_{2,0}} + \frac{4}{9} H_{c_{2,0}} \right) \lambda^2 + \left(-\frac{4}{9} F_{c_{2,0}} \right. \right. \\
& - \frac{8}{3} G_{c_{2,0}} + 4 H_{c_{2,0}} + \frac{8}{9} J_{c_{2,0}} \Big) \lambda^2 + \left(\frac{1}{9} cc_{1,0}^2 + \frac{2}{9} ec_{1,0}^2 \Big) S2 - \frac{1}{9} + \frac{2}{3} Ec_{2,0} - \frac{2}{9} \\
& bc_{1,0}^2 - 2 F_{c_{2,0}} - \frac{50}{9} G_{c_{2,0}} - \frac{50}{9} H_{c_{2,0}} - 2 J_{c_{2,0}} + \frac{2}{9} Cc_{2,0} \Big) K^6 + \left(\left(-\frac{8}{9} G_{c_{2,0}} \right. \right. \\
& + \frac{2}{9} A_{c_{2,0}} + \frac{2}{9} B_{c_{2,0}} - \frac{4}{9} F_{c_{2,0}} + \frac{4}{9} H_{c_{2,0}} \Big) \lambda^2 + \left(-\frac{4}{9} F_{c_{2,0}} - \frac{8}{3} G_{c_{2,0}} + 4 H_{c_{2,0}} \right. \\
& + \frac{8}{9} J_{c_{2,0}} \Big) \lambda^2 + \left(\frac{1}{9} cc_{1,0}^2 + \frac{2}{9} ec_{1,0}^2 \Big) S2 - \frac{1}{9} + \frac{2}{3} Ec_{2,0} - \frac{2}{9} bc_{1,0}^2 - 2 F_{c_{2,0}} \\
& - \frac{50}{9} G_{c_{2,0}} - \frac{50}{9} H_{c_{2,0}} - 2 J_{c_{2,0}} + \frac{2}{9} Cc_{2,0} \Big) K^4 + \left(\left(-\frac{8}{9} G_{c_{2,0}} + \frac{2}{9} A_{c_{2,0}} \right. \right. \\
& + \frac{2}{9} B_{c_{2,0}} - \frac{4}{9} F_{c_{2,0}} + \frac{4}{9} H_{c_{2,0}} \Big) \lambda^2 + \left(-\frac{4}{9} F_{c_{2,0}} - \frac{8}{3} G_{c_{2,0}} + 4 H_{c_{2,0}} \right. \\
& + \frac{8}{9} J_{c_{2,0}} \Big) \lambda^2 + \left(\frac{1}{9} cc_{1,0}^2 + \frac{2}{9} ec_{1,0}^2 \Big) S2 - \frac{1}{9} + \frac{2}{3} Ec_{2,0} - \frac{2}{9} bc_{1,0}^2 - 2 F_{c_{2,0}} \\
& - \frac{50}{9} G_{c_{2,0}} - \frac{50}{9} H_{c_{2,0}} - 2 J_{c_{2,0}} + \frac{2}{9} Cc_{2,0} \Big) K^2 + \left(\frac{2}{3} F_{c_{2,0}} - \frac{1}{3} A_{c_{2,0}} - \frac{2}{3} H_{c_{2,0}} \right. \\
& - \frac{1}{3} B_{c_{2,0}} + \frac{4}{3} G_{c_{2,0}} \Big) \lambda^2 + \left(\frac{1}{3} J_{c_{2,0}} - \frac{13}{3} F_{c_{2,0}} - \frac{23}{3} G_{c_{2,0}} + \frac{7}{3} H_{c_{2,0}} \right) \lambda^2 + \left(\right. \\
& - \frac{1}{6} cc_{1,0}^2 - \frac{1}{3} ec_{1,0}^2 \Big) S2 + \frac{1}{3} bc_{1,0}^2 + \frac{1}{6} + \frac{14}{3} J_{c_{2,0}} - \frac{1}{3} Cc_{2,0} - Ec_{2,0} - 2 F_{c_{2,0}} \\
& - \frac{10}{3} G_{c_{2,0}} + \frac{50}{3} H_{c_{2,0}} \Big) L_{c_{2,0}}(t) + L_{2,0}(t) \left(\left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} \right. \right. \right. \\
& + \frac{2}{3} H_{2,0} \Big) \lambda^2 + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \right) \lambda^2 - 20 G_{2,0} - 8 F_{2,0} \\
& - \frac{4}{3} J_{2,0} + E_{2,0} + \frac{1}{3} C_{2,0} \Big) K^8 + \left(\left(-\frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} - \frac{2}{9} B_{2,0} - \frac{2}{9} A_{2,0} \right. \right. \\
& + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \left(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} + \frac{8}{3} G_{2,0} \right) \lambda^2 + 2 J_{2,0} + \frac{50}{9} H_{2,0}
\end{aligned}$$

$$\begin{aligned}
& -\frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^6 + \Big(\Big(-\frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} - \frac{2}{9} B_{2,0} \\
& - \frac{2}{9} A_{2,0} + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \Big(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} + \frac{8}{3} G_{2,0} \Big) \lambda + 2 J_{2,0} \\
& + \frac{50}{9} H_{2,0} - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^4 + \Big(\Big(-\frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} \\
& - \frac{2}{9} B_{2,0} - \frac{2}{9} A_{2,0} + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \Big(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} + \frac{8}{3} G_{2,0} \Big) \lambda \\
& + 2 J_{2,0} + \frac{50}{9} H_{2,0} - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^2 + \Big(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} \\
& + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \Big) \lambda^2 + \Big(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \Big) \lambda \\
& + \frac{1}{3} C_{2,0} + E_{2,0} + 2 F_{2,0} + \frac{10}{3} G_{2,0} - \frac{50}{3} H_{2,0} - \frac{14}{3} J_{2,0} \Big) \Big) \Big) \Big) / \Big(\lambda^2 (K \\
& - 1) K^8 \Big((\lambda^2 - 1) (\lambda - 1) K^{12} + 2 (\lambda^2 - 1) (\lambda - 1) K^{10} + 3 (\lambda^2 - 1) (\lambda - 1) K^8 \\
& + (12 \lambda - 3 \lambda^2) K^6 - 3 (\lambda^2 + 1) (\lambda + 1) K^4 - 2 (\lambda^2 + 1) (\lambda + 1) K^2 - (\lambda^2 \\
& + 1) (\lambda + 1) \Big) (K + 1) \Big) :
\end{aligned}$$

$$\begin{aligned}
> Bc_{4,1} := & \frac{1}{16} \Big(-6 \lambda^2 K^4 \Big((\lambda^2 - 1) (\lambda - 1) K^{14} + (\lambda^2 - 1) (\lambda - 1) K^{12} + (\lambda^2 - 1) (\lambda \\
& - 1) K^{10} + ((-3 \lambda + 5) \lambda^2 + 15 \lambda - 23) K^8 + ((-3 \lambda + 5) \lambda^2 - 15 \lambda + 17) K^6 \\
& + (\lambda^2 + 1) (\lambda + 1) K^4 + (\lambda^2 + 1) (\lambda + 1) K^2 + (\lambda^2 + 1) (\lambda + 1) \Big) \Big(\frac{d}{dt} M_{4,1}(t) \Big) \\
& + 30 \lambda^2 K^6 \Big((\lambda^2 - 1) K^8 + \lambda^2 + 1 \Big) \Big(\frac{d}{dt} L_{4,1}(t) \Big) + \Big(6 \Big(\Big(-\frac{1}{3} Bc_{2,0} + \frac{4}{3} Gc_{2,0} \Big) \lambda^2 \\
& + Bc_{2,0} \lambda + \frac{4}{3} Bc_{2,0} - \frac{13}{3} Gc_{2,0} \Big) \lambda^2 (\lambda^2 - 1) K^{20} + 10 (\lambda^2 - 1) \Big(\Big(-\frac{1}{5} Ac_{2,0} \\
& - \frac{1}{5} Bc_{2,0} + \frac{2}{5} Fc_{2,0} + \frac{4}{5} Gc_{2,0} \Big) \lambda^2 + \Big(\Big(Ac_{2,0} + \frac{3}{5} Bc_{2,0} \Big) \lambda + \frac{4}{5} Bc_{2,0} - \frac{7}{5} Fc_{2,0} \\
& - \frac{13}{5} Gc_{2,0} \Big) \lambda^2 + \frac{1}{10} S2 \Big(SI ac_{1,0}^2 - cc_{1,0}^2 \Big) \Big) K^{18} + 10 \Big(\Big(-\frac{1}{5} Ac_{2,0} - \frac{1}{5} Bc_{2,0} \\
& + \frac{2}{5} Fc_{2,0} + \frac{4}{5} Gc_{2,0} \Big) \lambda^2 + \Big(\Big(Ac_{2,0} + \frac{3}{5} Bc_{2,0} \Big) \lambda + \frac{4}{5} Bc_{2,0} - \frac{7}{5} Fc_{2,0} \\
& - \frac{13}{5} Gc_{2,0} - \frac{13}{5} Jc_{2,0} \Big) \lambda^2 + \frac{1}{10} S2 \Big(SI ac_{1,0}^2 - cc_{1,0}^2 \Big) \Big) (\lambda^2 - 1) K^{16} + \Big((-2 Ac_{2,0} \\
& + 6 Bc_{2,0} + 4 Fc_{2,0} - 24 Gc_{2,0} - 4 Hc_{2,0}) \lambda^3 + ((10 Ac_{2,0} - 18 Bc_{2,0}) \lambda + 2 Ac_{2,0} \\
& - 30 Bc_{2,0} - 18 Fc_{2,0} + 258 Gc_{2,0} - 82 Hc_{2,0} - 26 Jc_{2,0}) \lambda^2 + ((-10 Ac_{2,0} \\
& + 90 Bc_{2,0}) \lambda + (SI ac_{1,0}^2 - cc_{1,0}^2 - 2 ec_{1,0}^2) S2 + 24 Bc_{2,0} + 14 Fc_{2,0} - 630 Gc_{2,0} \\
& + 86 Hc_{2,0} + 26 Jc_{2,0}) \lambda^2 - (SI ac_{1,0}^2 - cc_{1,0}^2 - 2 ec_{1,0}^2) S2 \Big) K^{14} + \Big((6 Ac_{2,0} + 6 Bc_{2,0} \\
& - 12 Fc_{2,0} - 24 Gc_{2,0} - 4 Hc_{2,0}) \lambda^3 + ((-30 Ac_{2,0} - 18 Bc_{2,0}) \lambda - 30 Ac_{2,0} + 30 Bc_{2,0} \\
& + 138 Fc_{2,0} + 18 Gc_{2,0} - 82 Hc_{2,0} - 26 Jc_{2,0}) \lambda^2 + ((150 Ac_{2,0} - 90 Bc_{2,0}) \lambda + (
\end{aligned}$$

$$\begin{aligned}
& -3 S1 ac_{1,0}^2 + 3 cc_{1,0}^2 - 2 ec_{1,0}^2) S2 + 24 Bc_{2,0} - 354 Fc_{2,0} + 330 Gc_{2,0} + 86 Hc_{2,0} \\
& + 26 Jc_{2,0}) \lambda 2 + 15 S2 \left(ac_{1,0}^2 S1 - cc_{1,0}^2 + \frac{2}{15} ec_{1,0}^2 \right) K^{12} + \left((6 Ac_{2,0} - 2 Bc_{2,0} \right. \\
& - 12 Fc_{2,0} + 8 Gc_{2,0} - 4 Hc_{2,0}) \lambda 2^3 + ((-30 Ac_{2,0} + 6 Bc_{2,0}) \lambda l + 30 Ac_{2,0} - 10 Bc_{2,0} \\
& + 18 Fc_{2,0} + 82 Gc_{2,0} - 82 Hc_{2,0} - 6 Jc_{2,0}) \lambda 2^2 + ((-150 Ac_{2,0} + 6 Bc_{2,0}) \lambda l + (-3 S1 \\
& ac_{1,0}^2 + 3 cc_{1,0}^2 - 2 ec_{1,0}^2) S2 - 8 Bc_{2,0} + 246 Fc_{2,0} + 74 Gc_{2,0} + 86 Hc_{2,0} - 54 Jc_{2,0}) \lambda 2 \\
& - 15 S2 \left(ac_{1,0}^2 S1 - cc_{1,0}^2 - \frac{2}{15} ec_{1,0}^2 \right) K^{10} + ((-2 Ac_{2,0} - 2 Bc_{2,0} + 4 Fc_{2,0} + 8 Gc_{2,0} \\
& + 12 Hc_{2,0}) \lambda 2^3 + ((10 Ac_{2,0} + 6 Bc_{2,0}) \lambda l - 2 Ac_{2,0} - 10 Bc_{2,0} + 26 Fc_{2,0} + 82 Gc_{2,0} \\
& - 102 Hc_{2,0} - 6 Jc_{2,0}) \lambda 2^2 + ((10 Ac_{2,0} + 6 Bc_{2,0}) \lambda l + (S1 ac_{1,0}^2 - cc_{1,0}^2 + 6 ec_{1,0}^2) S2 \\
& - 8 Bc_{2,0} + 22 Fc_{2,0} + 74 Gc_{2,0} - 90 Hc_{2,0} - 54 Jc_{2,0}) \lambda 2 + S2 (S1 ac_{1,0}^2 - cc_{1,0}^2 - 30 \\
& ec_{1,0}^2) K^8 + ((-2 Ac_{2,0} - 2 Bc_{2,0} + 4 Fc_{2,0} + 8 Gc_{2,0} + 12 Hc_{2,0}) \lambda 2^3 + ((10 Ac_{2,0} \\
& + 6 Bc_{2,0}) \lambda l - 2 Ac_{2,0} - 10 Bc_{2,0} + 26 Fc_{2,0} + 82 Gc_{2,0} + 18 Hc_{2,0} + 10 Jc_{2,0}) \lambda 2^2 \\
& + ((10 Ac_{2,0} + 6 Bc_{2,0}) \lambda l + (S1 ac_{1,0}^2 - cc_{1,0}^2 + 6 ec_{1,0}^2) S2 - 8 Bc_{2,0} + 22 Fc_{2,0} \\
& + 74 Gc_{2,0} - 210 Hc_{2,0} + 10 Jc_{2,0}) \lambda 2 + S2 (S1 ac_{1,0}^2 - cc_{1,0}^2 + 30 ec_{1,0}^2) K^6 + 10 (\lambda 2 \\
& + 1) \left(\left(-\frac{1}{5} Ac_{2,0} + \frac{2}{5} Fc_{2,0} - \frac{2}{5} Hc_{2,0} \right) \lambda 2^2 + \left(\lambda l Ac_{2,0} + \frac{11}{5} Fc_{2,0} + \frac{7}{5} Hc_{2,0} \right. \right. \\
& \left. \left. + Jc_{2,0} \right) \lambda 2 + \frac{1}{10} (S1 ac_{1,0}^2 - cc_{1,0}^2 - 2 ec_{1,0}^2) S2 \right) K^4 - 4 \left(\lambda 2^2 Hc_{2,0} + \left(-\frac{7}{2} Hc_{2,0} \right. \right. \\
& \left. \left. - \frac{5}{2} Jc_{2,0} \right) \lambda 2 + \frac{1}{2} S2 ec_{1,0}^2 \right) (\lambda 2 + 1) K^2 - 4 (\lambda 2 + 1) \left(\lambda 2^2 Hc_{2,0} + \frac{1}{2} S2 ec_{1,0}^2 \right. \\
& \left. - \frac{7}{2} \lambda 2 Hc_{2,0} \right) M_{2,0}(t) + 8 \lambda 2 \left(\left((\lambda 2 - 1) \left(\left(G_{2,0} - \frac{1}{4} B_{2,0} \right) \lambda 2 + \frac{3}{4} \lambda l B_{2,0} \right. \right. \right. \\
& \left. \left. - \frac{13}{4} G_{2,0} + B_{2,0} \right) K^{20} + \frac{1}{2} \left(\left(F_{2,0} + 2 G_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) \lambda 2 + \left(\frac{5}{2} A_{2,0} \right. \right. \right. \\
& \left. \left. + \frac{3}{2} B_{2,0} \right) \lambda l - \frac{7}{2} F_{2,0} - \frac{13}{2} G_{2,0} + 2 B_{2,0} \right) (\lambda 2 - 1) K^{18} + \frac{1}{2} (\lambda 2 - 1) \left(\left(F_{2,0} \right. \right. \\
& \left. \left. + 2 G_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) \lambda 2 + \left(\frac{5}{2} A_{2,0} + \frac{3}{2} B_{2,0} \right) \lambda l - \frac{7}{2} F_{2,0} - \frac{13}{2} G_{2,0} \right. \\
& \left. - \frac{13}{2} J_{2,0} + 2 B_{2,0} \right) K^{16} + \left(\left(-\frac{1}{2} H_{2,0} - 3 G_{2,0} + \frac{3}{4} B_{2,0} - \frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} \right) \lambda 2^2 \right. \\
& \left. + \left(\left(\frac{5}{4} A_{2,0} - \frac{9}{4} B_{2,0} \right) \lambda l - \frac{9}{4} F_{2,0} + \frac{1}{4} A_{2,0} - \frac{13}{4} J_{2,0} - \frac{41}{4} H_{2,0} - \frac{15}{4} B_{2,0} \right. \right. \\
& \left. \left. + \frac{129}{4} G_{2,0} \right) \lambda 2 + \left(-\frac{5}{4} A_{2,0} + \frac{45}{4} B_{2,0} \right) \lambda l - \frac{315}{4} G_{2,0} + \frac{7}{4} F_{2,0} + \frac{13}{4} J_{2,0} \right. \\
& \left. + \frac{43}{4} H_{2,0} + 3 B_{2,0} \right) K^{14} + \left(\left(\frac{3}{4} B_{2,0} - \frac{1}{2} H_{2,0} - 3 G_{2,0} + \frac{3}{4} A_{2,0} - \frac{3}{2} F_{2,0} \right) \lambda 2^2 \right.
\end{aligned}$$

$$\begin{aligned}
& + \left(\left(-\frac{15}{4} A_{2,0} - \frac{9}{4} B_{2,0} \right) \lambda l + \frac{9}{4} G_{2,0} - \frac{13}{4} J_{2,0} + \frac{69}{4} F_{2,0} - \frac{15}{4} A_{2,0} - \frac{41}{4} H_{2,0} \right. \\
& + \left. \frac{15}{4} B_{2,0} \right) \lambda^2 + \left(-\frac{45}{4} B_{2,0} + \frac{75}{4} A_{2,0} \right) \lambda l - \frac{177}{4} F_{2,0} + \frac{43}{4} H_{2,0} + \frac{13}{4} J_{2,0} \\
& + \frac{165}{4} G_{2,0} + 3 B_{2,0} \Big) K^{12} + \left(\left(\frac{3}{4} A_{2,0} - \frac{3}{2} F_{2,0} - \frac{1}{4} B_{2,0} + G_{2,0} - \frac{1}{2} H_{2,0} \right) \lambda^2 \right. \\
& + \left(\left(\frac{3}{4} B_{2,0} - \frac{15}{4} A_{2,0} \right) \lambda l + \frac{9}{4} F_{2,0} + \frac{41}{4} G_{2,0} - \frac{41}{4} H_{2,0} + \frac{15}{4} A_{2,0} - \frac{3}{4} J_{2,0} \right. \\
& - \left. \frac{5}{4} B_{2,0} \right) \lambda^2 + \left(\frac{3}{4} B_{2,0} - \frac{75}{4} A_{2,0} \right) \lambda l - \frac{27}{4} J_{2,0} + \frac{43}{4} H_{2,0} + \frac{123}{4} F_{2,0} \\
& + \left. \frac{37}{4} G_{2,0} - B_{2,0} \right) K^{10} + \left(\left(-\frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} - \frac{1}{4} B_{2,0} + G_{2,0} + \frac{3}{2} H_{2,0} \right) \lambda^2 \right. \\
& + \left(\left(\frac{3}{4} B_{2,0} + \frac{5}{4} A_{2,0} \right) \lambda l + \frac{13}{4} F_{2,0} - \frac{3}{4} J_{2,0} - \frac{5}{4} B_{2,0} + \frac{41}{4} G_{2,0} - \frac{1}{4} A_{2,0} \right. \\
& - \left. \frac{51}{4} H_{2,0} \right) \lambda^2 + \left(\frac{3}{4} B_{2,0} + \frac{5}{4} A_{2,0} \right) \lambda l - \frac{45}{4} H_{2,0} - B_{2,0} + \frac{37}{4} G_{2,0} + \frac{11}{4} F_{2,0} \\
& - \left. \frac{27}{4} J_{2,0} \right) K^8 + \left(\left(-\frac{1}{4} A_{2,0} + \frac{1}{2} F_{2,0} - \frac{1}{4} B_{2,0} + G_{2,0} + \frac{3}{2} H_{2,0} \right) \lambda^2 + \left(\left(\frac{3}{4} B_{2,0} \right. \right. \right. \\
& + \left. \frac{5}{4} A_{2,0} \right) \lambda l + \frac{9}{4} H_{2,0} + \frac{5}{4} J_{2,0} - \frac{1}{4} A_{2,0} + \frac{13}{4} F_{2,0} + \frac{41}{4} G_{2,0} - \frac{5}{4} B_{2,0} \Big) \lambda^2 \\
& + \left(\frac{3}{4} B_{2,0} + \frac{5}{4} A_{2,0} \right) \lambda l + \frac{37}{4} G_{2,0} + \frac{11}{4} F_{2,0} - \frac{105}{4} H_{2,0} + \frac{5}{4} J_{2,0} - B_{2,0} \Big) K^6 \\
& + \frac{1}{2} (\lambda^2 + 1) \left(\left(F_{2,0} - H_{2,0} - \frac{1}{2} A_{2,0} \right) \lambda^2 + \frac{5}{2} \lambda l A_{2,0} + \frac{11}{2} F_{2,0} + \frac{7}{2} H_{2,0} \right. \\
& + \left. \frac{5}{2} J_{2,0} \right) K^4 - \frac{1}{2} (\lambda^2 + 1) \left(\lambda^2 H_{2,0} - \frac{7}{2} H_{2,0} - \frac{5}{2} J_{2,0} \right) K^2 - \frac{1}{2} H_{2,0} \left(\lambda^2 \right. \\
& - \left. \frac{7}{2} \right) (\lambda^2 + 1) \Big) M c_{2,0}(t) - \frac{9}{4} \left(\left(\left(-\frac{2}{3} F c_{2,0} + \frac{1}{3} A c_{2,0} + \frac{2}{3} H c_{2,0} + \frac{1}{3} B c_{2,0} \right. \right. \right. \\
& - \left. \frac{4}{3} G c_{2,0} \right) \lambda^2 + \left(-\frac{1}{3} J c_{2,0} + \frac{13}{3} F c_{2,0} + \frac{23}{3} G c_{2,0} - \frac{7}{3} H c_{2,0} \right) \lambda^2 + \left(\frac{1}{6} c c_{1,0}^2 \right. \\
& + \left. \frac{1}{3} e c_{1,0}^2 \right) S_2 - \frac{1}{6} + E c_{2,0} - \frac{1}{3} b c_{1,0}^2 - 8 F c_{2,0} - 20 G c_{2,0} - \frac{4}{3} J c_{2,0} + \frac{1}{3} C c_{2,0} \Big) K^8 \\
& + \left(\left(\frac{8}{9} G c_{2,0} - \frac{2}{9} A c_{2,0} - \frac{2}{9} B c_{2,0} + \frac{4}{9} F c_{2,0} - \frac{4}{9} H c_{2,0} \right) \lambda^2 + \left(\frac{4}{9} F c_{2,0} \right. \right. \\
& + \left. \frac{8}{3} G c_{2,0} - 4 H c_{2,0} - \frac{8}{9} J c_{2,0} \right) \lambda^2 + \left(-\frac{1}{9} c c_{1,0}^2 - \frac{2}{9} e c_{1,0}^2 \right) S_2 + \frac{1}{9} - \frac{2}{3} E c_{2,0} \\
& + \frac{2}{9} b c_{1,0}^2 + 2 F c_{2,0} + \frac{50}{9} G c_{2,0} + \frac{50}{9} H c_{2,0} + 2 J c_{2,0} - \frac{2}{9} C c_{2,0} \Big) K^6 + \left(\left(\frac{8}{9} G c_{2,0} \right. \right. \\
& - \frac{2}{9} A c_{2,0} - \frac{2}{9} B c_{2,0} + \frac{4}{9} F c_{2,0} - \frac{4}{9} H c_{2,0} \Big) \lambda^2 + \left(\frac{4}{9} F c_{2,0} + \frac{8}{3} G c_{2,0} - 4 H c_{2,0} \right. \\
& - \left. \frac{8}{9} J c_{2,0} \right) \lambda^2 + \left(-\frac{1}{9} c c_{1,0}^2 - \frac{2}{9} e c_{1,0}^2 \right) S_2 + \frac{1}{9} - \frac{2}{3} E c_{2,0} + \frac{2}{9} b c_{1,0}^2 + 2 F c_{2,0} \\
& + \frac{50}{9} G c_{2,0} + \frac{50}{9} H c_{2,0} + 2 J c_{2,0} - \frac{2}{9} C c_{2,0} \Big) K^4 + \left(\left(\frac{8}{9} G c_{2,0} - \frac{2}{9} A c_{2,0} - \frac{2}{9} B c_{2,0} \right. \right. \\
& + \frac{4}{9} F c_{2,0} - \frac{4}{9} H c_{2,0} \Big) \lambda^2 + \left(\frac{4}{9} F c_{2,0} + \frac{8}{3} G c_{2,0} - 4 H c_{2,0} - \frac{8}{9} J c_{2,0} \right) \lambda^2 + \left(-\frac{1}{9} \right. \\
& \left. c c_{1,0}^2 - \frac{2}{9} e c_{1,0}^2 \right) S_2 + \frac{1}{9} - \frac{2}{3} E c_{2,0} + \frac{2}{9} b c_{1,0}^2 + 2 F c_{2,0} + \frac{50}{9} G c_{2,0} + \frac{50}{9} H c_{2,0}
\end{aligned}$$

$$\begin{aligned}
& + 2 J_{c_{2,0}} - \frac{2}{9} C_{c_{2,0}} \Big) K^2 + \left(-\frac{2}{3} F_{c_{2,0}} + \frac{1}{3} A_{c_{2,0}} + \frac{2}{3} H_{c_{2,0}} + \frac{1}{3} B_{c_{2,0}} \right. \\
& - \frac{4}{3} G_{c_{2,0}} \Big) \lambda^2 + \left(-\frac{1}{3} J_{c_{2,0}} + \frac{13}{3} F_{c_{2,0}} + \frac{23}{3} G_{c_{2,0}} - \frac{7}{3} H_{c_{2,0}} \right) \lambda + \left(\frac{1}{6} c c_{1,0}^2 \right. \\
& + \frac{1}{3} e c_{1,0}^2 \Big) S2 - \frac{1}{3} b c_{1,0}^2 - \frac{1}{6} - \frac{14}{3} J_{c_{2,0}} + \frac{1}{3} C_{c_{2,0}} + E_{c_{2,0}} + 2 F_{c_{2,0}} + \frac{10}{3} G_{c_{2,0}} \\
& - \frac{50}{3} H_{c_{2,0}} \Big) L_{2,0}(t) + L_{c_{2,0}}(t) \left(\left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} \right. \right. \right. \\
& + \frac{2}{3} H_{2,0} \Big) \lambda^2 + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \right) \lambda - 20 G_{2,0} - 8 F_{2,0} \\
& - \frac{4}{3} J_{2,0} + E_{2,0} + \frac{1}{3} C_{2,0} \Big) K^8 + \left(\left(-\frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} - \frac{2}{9} B_{2,0} - \frac{2}{9} A_{2,0} \right. \right. \\
& + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \left(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} + \frac{8}{3} G_{2,0} \right) \lambda + 2 J_{2,0} + \frac{50}{9} H_{2,0} \\
& - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^6 + \left(\left(-\frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} - \frac{2}{9} B_{2,0} \right. \right. \\
& - \frac{2}{9} A_{2,0} + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \left(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} + \frac{8}{3} G_{2,0} \right) \lambda + 2 J_{2,0} \\
& + \frac{50}{9} H_{2,0} - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^4 + \left(\left(-\frac{4}{9} H_{2,0} + \frac{8}{9} G_{2,0} \right. \right. \\
& - \frac{2}{9} B_{2,0} - \frac{2}{9} A_{2,0} + \frac{4}{9} F_{2,0} \Big) \lambda^2 + \left(-4 H_{2,0} - \frac{8}{9} J_{2,0} + \frac{4}{9} F_{2,0} + \frac{8}{3} G_{2,0} \right) \lambda \\
& + 2 J_{2,0} + \frac{50}{9} H_{2,0} - \frac{2}{3} E_{2,0} - \frac{2}{9} C_{2,0} + 2 F_{2,0} + \frac{50}{9} G_{2,0} \Big) K^2 + \left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} \right. \\
& + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \Big) \lambda^2 + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \right) \lambda \\
& + \frac{1}{3} C_{2,0} + E_{2,0} + 2 F_{2,0} + \frac{10}{3} G_{2,0} - \frac{50}{3} H_{2,0} - \frac{14}{3} J_{2,0} \Big) K^6 \Big) \Big) / \left(\lambda (K \right. \\
& - 1) K^8 \left((\lambda^2 - 1) (\lambda - 1) K^{12} + 2 (\lambda^2 - 1) (\lambda - 1) K^{10} + 3 (\lambda^2 - 1) (\lambda - 1) K^8 \right. \\
& + (12 \lambda - 3 \lambda^2) K^6 - 3 (\lambda^2 + 1) (\lambda + 1) K^4 - 2 (\lambda^2 + 1) (\lambda + 1) K^2 - (\lambda^2 \\
& + 1) (\lambda + 1) \Big) (K + 1) \Big) :
\end{aligned}$$

$$\begin{aligned}
> C_{4,1} := & \frac{1}{16} \left((6 (\lambda^2 - 1) (\lambda - 1) K^{14} + 6 (\lambda^2 - 1) (\lambda - 1) K^{12} + 6 (\lambda^2 - 1) (\lambda \right. \\
& - 1) K^{10} + ((-138 \lambda + 30) \lambda^2 + 90 \lambda - 18) K^8 + ((102 \lambda + 30) \lambda^2 - 90 \lambda \\
& - 18) K^6 + 6 (\lambda^2 + 1) (\lambda + 1) K^4 + 6 (\lambda^2 + 1) (\lambda + 1) K^2 + 6 (\lambda^2 + 1) (\lambda + 1) \Big) \\
& \left(\frac{d}{dt} L_{c_{4,1}}(t) \right) + 30 ((\lambda - 1) K^8 - \lambda - 1) \lambda^2 K^4 \left(\frac{d}{dt} M_{c_{4,1}}(t) \right) + \left(-2 (\lambda \right. \\
& - 1) \left((A_{c_{2,0}} + B_{c_{2,0}} - 2 F_{c_{2,0}} - 4 G_{c_{2,0}} + 2 H_{c_{2,0}}) \lambda^2 + (10 C_{c_{2,0}} + 6 E_{c_{2,0}} \right. \\
& - 11 F_{c_{2,0}} - 37 G_{c_{2,0}} - 7 H_{c_{2,0}} - 5 J_{c_{2,0}}) \lambda + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S2 - b c_{1,0}^2 - 9 C_{c_{2,0}} \\
& - 3 E_{c_{2,0}} - \frac{1}{2} \Big) K^{14} - 2 (\lambda - 1) \left((A_{c_{2,0}} + B_{c_{2,0}} - 2 F_{c_{2,0}} - 4 G_{c_{2,0}} + 2 H_{c_{2,0}}) \lambda^2 \right. \\
& + (10 C_{c_{2,0}} + 6 E_{c_{2,0}} - 11 F_{c_{2,0}} - 37 G_{c_{2,0}} - 7 H_{c_{2,0}} - 5 J_{c_{2,0}}) \lambda + \left(\frac{1}{2} c c_{1,0}^2 +
\end{aligned}$$

$$\begin{aligned}
& ec_{1,0}^2 \Big) S2 - bc_{1,0}^2 - 9 Cc_{2,0} - 3 Ec_{2,0} - \frac{1}{2} \Big) K^{12} - 2 (\lambda - 1) \Big((Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} \\
& - 4 Gc_{2,0} + 2 Hc_{2,0}) \lambda^2 + (10 Cc_{2,0} + 6 Ec_{2,0} - 11 Fc_{2,0} - 37 Gc_{2,0} - 7 Hc_{2,0} \\
& - 5 Jc_{2,0}) \lambda + \Big(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \Big) S2 - bc_{1,0}^2 - 9 Cc_{2,0} - 3 Ec_{2,0} - \frac{1}{2} \Big) K^{10} \\
& + \Big(30 (Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} - 4 Gc_{2,0} + 2 Hc_{2,0}) \Big(\lambda - \frac{1}{5} \Big) \lambda^2 + (60 Cc_{2,0} \\
& + 36 Ec_{2,0} + 246 Fc_{2,0} + 330 Gc_{2,0} - 210 Hc_{2,0} - 54 Jc_{2,0}) \lambda - 78 Fc_{2,0} - 138 Gc_{2,0} \\
& + 42 Hc_{2,0} + 6 Jc_{2,0}) \lambda - 270 \Big(\lambda - \frac{1}{5} \Big) \Big(\Big(-\frac{1}{18} cc_{1,0}^2 - \frac{1}{9} ec_{1,0}^2 \Big) S2 + \frac{1}{9} bc_{1,0}^2 \\
& + Cc_{2,0} + \frac{1}{3} Ec_{2,0} + \frac{1}{18} \Big) \Big) K^8 + \Big(-30 (Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} - 4 Gc_{2,0} \\
& + 2 Hc_{2,0}) \Big(\lambda + \frac{1}{5} \Big) \lambda^2 + (60 Cc_{2,0} + 36 Ec_{2,0} - 354 Fc_{2,0} - 630 Gc_{2,0} - 90 Hc_{2,0} \\
& - 54 Jc_{2,0}) \lambda - 78 Fc_{2,0} - 138 Gc_{2,0} + 42 Hc_{2,0} + 6 Jc_{2,0}) \lambda + 270 \Big(\lambda + \frac{1}{5} \Big) \Big(\Big(\\
& -\frac{1}{18} cc_{1,0}^2 - \frac{1}{9} ec_{1,0}^2 \Big) S2 + \frac{1}{9} bc_{1,0}^2 + Cc_{2,0} + \frac{1}{3} Ec_{2,0} + \frac{1}{18} \Big) \Big) K^6 + 2 (\lambda \\
& + 1) \Big((Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} - 4 Gc_{2,0} + 2 Hc_{2,0}) \lambda^2 + (-10 Cc_{2,0} - 6 Ec_{2,0} \\
& + 7 Fc_{2,0} + 13 Gc_{2,0} + 43 Hc_{2,0} + 13 Jc_{2,0}) \lambda + \Big(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \Big) S2 - bc_{1,0}^2 - 9 Cc_{2,0} \\
& - 3 Ec_{2,0} - \frac{1}{2} \Big) K^4 + 2 (\lambda + 1) \Big((Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} - 4 Gc_{2,0} + 2 Hc_{2,0}) \lambda^2 \\
& + (-10 Cc_{2,0} - 6 Ec_{2,0} + 7 Fc_{2,0} + 13 Gc_{2,0} + 43 Hc_{2,0} + 13 Jc_{2,0}) \lambda + \Big(\frac{1}{2} cc_{1,0}^2 + \\
& ec_{1,0}^2 \Big) S2 - bc_{1,0}^2 - 9 Cc_{2,0} - 3 Ec_{2,0} - \frac{1}{2} \Big) K^2 + 2 (\lambda + 1) \Big((Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} \\
& - 4 Gc_{2,0} + 2 Hc_{2,0}) \lambda^2 + (-10 Cc_{2,0} - 6 Ec_{2,0} + 7 Fc_{2,0} + 13 Gc_{2,0} + 43 Hc_{2,0} \\
& + 13 Jc_{2,0}) \lambda + \Big(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \Big) S2 - bc_{1,0}^2 - 9 Cc_{2,0} - 3 Ec_{2,0} - \frac{1}{2} \Big) \Big) Lc_{2,0}(t) \\
& + \Big(12 \Big(\Big(-\frac{1}{3} F_{2,0} - \frac{2}{3} G_{2,0} + \frac{1}{3} H_{2,0} + \frac{1}{6} A_{2,0} + \frac{1}{6} B_{2,0} \Big) \lambda^2 + \Big(E_{2,0} - \frac{11}{6} F_{2,0} \\
& - \frac{37}{6} G_{2,0} - \frac{7}{6} H_{2,0} - \frac{5}{6} J_{2,0} + \frac{5}{3} C_{2,0} \Big) \lambda - \frac{1}{2} E_{2,0} - \frac{3}{2} C_{2,0} \Big) (\lambda - 1) K^{14} \\
& + 12 \Big(\Big(-\frac{1}{3} F_{2,0} - \frac{2}{3} G_{2,0} + \frac{1}{3} H_{2,0} + \frac{1}{6} A_{2,0} + \frac{1}{6} B_{2,0} \Big) \lambda^2 + \Big(E_{2,0} - \frac{11}{6} F_{2,0} \\
& - \frac{37}{6} G_{2,0} - \frac{7}{6} H_{2,0} - \frac{5}{6} J_{2,0} + \frac{5}{3} C_{2,0} \Big) \lambda - \frac{1}{2} E_{2,0} - \frac{3}{2} C_{2,0} \Big) (\lambda - 1) K^{12} \\
& + 12 \Big(\Big(-\frac{1}{3} F_{2,0} - \frac{2}{3} G_{2,0} + \frac{1}{3} H_{2,0} + \frac{1}{6} A_{2,0} + \frac{1}{6} B_{2,0} \Big) \lambda^2 + \Big(E_{2,0} - \frac{11}{6} F_{2,0} \\
& - \frac{37}{6} G_{2,0} - \frac{7}{6} H_{2,0} - \frac{5}{6} J_{2,0} + \frac{5}{3} C_{2,0} \Big) \lambda - \frac{1}{2} E_{2,0} - \frac{3}{2} C_{2,0} \Big) (\lambda - 1) K^{10} \\
& + \Big(60 \Big(\lambda - \frac{1}{5} \Big) \Big(F_{2,0} + 2 G_{2,0} - H_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \Big) \lambda^2 + (-36 E_{2,0}
\end{aligned}$$

$$\begin{aligned}
& -246 F_{2,0} - 330 G_{2,0} + 210 H_{2,0} + 54 J_{2,0} - 60 C_{2,0}) \lambda l + 78 F_{2,0} + 138 G_{2,0} - 42 H_{2,0} \\
& - 6 J_{2,0}) \lambda^2 + 90 \left(\lambda l - \frac{1}{5} \right) (E_{2,0} + 3 C_{2,0}) K^8 + \left(-60 \left(\lambda l + \frac{1}{5} \right) \left(F_{2,0} + 2 G_{2,0} \right. \right. \\
& \left. \left. - H_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) \lambda^2 + \left((-36 E_{2,0} + 354 F_{2,0} + 630 G_{2,0} + 90 H_{2,0} + 54 J_{2,0} \right. \right. \\
& \left. \left. - 60 C_{2,0}) \lambda l + 78 F_{2,0} + 138 G_{2,0} - 42 H_{2,0} - 6 J_{2,0}) \lambda^2 - 90 \left(\lambda l + \frac{1}{5} \right) (E_{2,0} \right. \right. \\
& \left. \left. + 3 C_{2,0}) \right) K^6 + 12 (\lambda l + 1) \left(\left(\frac{1}{3} F_{2,0} + \frac{2}{3} G_{2,0} - \frac{1}{3} H_{2,0} - \frac{1}{6} A_{2,0} - \frac{1}{6} B_{2,0} \right) \lambda^2 \right. \right. \\
& \left. \left. + \left(E_{2,0} - \frac{7}{6} F_{2,0} - \frac{13}{6} G_{2,0} - \frac{43}{6} H_{2,0} - \frac{13}{6} J_{2,0} + \frac{5}{3} C_{2,0} \right) \lambda^2 + \frac{1}{2} E_{2,0} \right. \right. \\
& \left. \left. + \frac{3}{2} C_{2,0} \right) K^4 + 12 (\lambda l + 1) \left(\left(\frac{1}{3} F_{2,0} + \frac{2}{3} G_{2,0} - \frac{1}{3} H_{2,0} - \frac{1}{6} A_{2,0} - \frac{1}{6} B_{2,0} \right) \lambda^2 \right. \right. \\
& \left. \left. + \left(E_{2,0} - \frac{7}{6} F_{2,0} - \frac{13}{6} G_{2,0} - \frac{43}{6} H_{2,0} - \frac{13}{6} J_{2,0} + \frac{5}{3} C_{2,0} \right) \lambda^2 + \frac{1}{2} E_{2,0} \right. \right. \\
& \left. \left. + \frac{3}{2} C_{2,0} \right) K^2 + 12 (\lambda l + 1) \left(\left(\frac{1}{3} F_{2,0} + \frac{2}{3} G_{2,0} - \frac{1}{3} H_{2,0} - \frac{1}{6} A_{2,0} - \frac{1}{6} B_{2,0} \right) \lambda^2 \right. \right. \\
& \left. \left. + \left(E_{2,0} - \frac{7}{6} F_{2,0} - \frac{13}{6} G_{2,0} - \frac{43}{6} H_{2,0} - \frac{13}{6} J_{2,0} + \frac{5}{3} C_{2,0} \right) \lambda^2 + \frac{1}{2} E_{2,0} \right. \right. \\
& \left. \left. + \frac{3}{2} C_{2,0} \right) \right) L_{2,0}(t) + \left(-42 \lambda^2 \left(\left(-\frac{1}{7} Bc_{2,0} + \frac{4}{7} Gc_{2,0} \right) \lambda^2 + \left(Bc_{2,0} + \frac{10}{7} Gc_{2,0} \right) \lambda l \right. \right. \\
& \left. \left. - \frac{23}{7} Gc_{2,0} \right) K^{14} + \left((6 Ac_{2,0} - 4 Bc_{2,0} - 12 Fc_{2,0} + 16 Gc_{2,0}) \lambda^2 + \left((-30 Ac_{2,0} \right. \right. \right. \\
& \left. \left. + 28 Bc_{2,0} - 36 Fc_{2,0} - 100 Gc_{2,0}) \lambda l + 78 Fc_{2,0} + 48 Gc_{2,0}) \lambda^2 - 3 S2 \left(Sl ac_{1,0}^2 - \right. \right. \\
& \left. \left. cc_{1,0}^2 \right) \right) K^{12} + \left((-4 Ac_{2,0} - 4 Bc_{2,0} + 8 Fc_{2,0} + 16 Gc_{2,0}) \lambda^2 + \left((20 Ac_{2,0} + 28 Bc_{2,0} \right. \right. \\
& \left. \left. - 36 Fc_{2,0} - 100 Gc_{2,0} + 84 Jc_{2,0}) \lambda l + 8 Fc_{2,0} + 48 Gc_{2,0} - 6 Jc_{2,0}) \lambda^2 + 2 S2 \left(Sl ac_{1,0}^2 \right. \right. \\
& \left. \left. - cc_{1,0}^2 \right) \right) K^{10} + \left((-4 Ac_{2,0} - 4 Bc_{2,0} + 8 Fc_{2,0} + 16 Gc_{2,0} + 12 Hc_{2,0}) \lambda^2 + \left((20 Ac_{2,0} \right. \right. \\
& \left. \left. + 28 Bc_{2,0} - 36 Fc_{2,0} - 100 Gc_{2,0} + 300 Hc_{2,0} - 36 Jc_{2,0}) \lambda l + 8 Fc_{2,0} + 48 Gc_{2,0} \right. \right. \\
& \left. \left. - 42 Hc_{2,0} - 16 Jc_{2,0}) \lambda^2 + 2 S2 \left(Sl ac_{1,0}^2 - cc_{1,0}^2 + 3 ec_{1,0}^2 \right) \right) K^8 + \left((-4 Ac_{2,0} + 6 Bc_{2,0} \right. \right. \\
& \left. \left. + 8 Fc_{2,0} - 24 Gc_{2,0} - 8 Hc_{2,0}) \lambda^2 + \left((20 Ac_{2,0} - 42 Bc_{2,0} - 36 Fc_{2,0} + 360 Gc_{2,0} \right. \right. \right. \\
& \left. \left. - 100 Hc_{2,0} - 36 Jc_{2,0}) \lambda l + 8 Fc_{2,0} + 138 Gc_{2,0} - 72 Hc_{2,0} - 16 Jc_{2,0}) \lambda^2 + 2 \left(Sl ac_{1,0}^2 \right. \right. \\
& \left. \left. - cc_{1,0}^2 - 2 ec_{1,0}^2 \right) S2 \right) K^6 + \left((6 Ac_{2,0} - 12 Fc_{2,0} - 8 Hc_{2,0}) \lambda^2 + \left((-30 Ac_{2,0} \right. \right. \right. \\
& \left. \left. + 144 Fc_{2,0} - 100 Hc_{2,0} - 36 Jc_{2,0}) \lambda l + 78 Fc_{2,0} - 72 Hc_{2,0} - 16 Jc_{2,0}) \lambda^2 - 3 \left(\right. \right. \\
& \left. \left. ac_{1,0}^2 Sl - cc_{1,0}^2 + \frac{4}{3} ec_{1,0}^2 \right) S2 \right) K^4 + \left(-8 \lambda^2 Hc_{2,0} + \left((-100 Hc_{2,0} + 24 Jc_{2,0}) \lambda l \right. \right. \\
& \left. \left. - 72 Hc_{2,0} - 6 Jc_{2,0}) \lambda^2 - 4 S2 ec_{1,0}^2 \right) K^2 + 12 \lambda^2 Hc_{2,0} + 6 S2 ec_{1,0}^2 - 42 \lambda^2 Hc_{2,0} \right)
\end{aligned}$$

$$\begin{aligned}
& Mc_{2,0}(t) + 60 M_{2,0}(t) \lambda^2 \left(\left(\left(-\frac{1}{10} B_{2,0} + \frac{2}{5} G_{2,0} \right) \lambda^2 + \left(\frac{7}{10} B_{2,0} + G_{2,0} \right) \lambda \right. \right. \\
& \left. \left. - \frac{23}{10} G_{2,0} \right) K^{14} + \left(\left(-\frac{4}{15} G_{2,0} + \frac{1}{5} F_{2,0} - \frac{1}{10} A_{2,0} + \frac{1}{15} B_{2,0} \right) \lambda^2 + \left(-\frac{7}{15} B_{2,0} \right. \right. \right. \\
& \left. \left. + \frac{1}{2} A_{2,0} + \frac{3}{5} F_{2,0} + \frac{5}{3} G_{2,0} \right) \lambda - \frac{13}{10} F_{2,0} - \frac{4}{5} G_{2,0} \right) K^{12} + \left(\left(-\frac{2}{15} F_{2,0} \right. \right. \\
& \left. \left. - \frac{4}{15} G_{2,0} + \frac{1}{15} A_{2,0} + \frac{1}{15} B_{2,0} \right) \lambda^2 + \left(-\frac{7}{15} B_{2,0} - \frac{1}{3} A_{2,0} + \frac{5}{3} G_{2,0} - \frac{7}{5} J_{2,0} \right. \right. \\
& \left. \left. + \frac{3}{5} F_{2,0} \right) \lambda + \frac{1}{10} J_{2,0} - \frac{2}{15} F_{2,0} - \frac{4}{5} G_{2,0} \right) K^{10} + \left(\left(-\frac{2}{15} F_{2,0} + \frac{1}{15} B_{2,0} \right. \right. \\
& \left. \left. - \frac{4}{15} G_{2,0} + \frac{1}{15} A_{2,0} - \frac{1}{5} H_{2,0} \right) \lambda^2 + \left(-\frac{1}{3} A_{2,0} - \frac{7}{15} B_{2,0} + \frac{3}{5} F_{2,0} + \frac{5}{3} G_{2,0} \right. \right. \\
& \left. \left. - 5 H_{2,0} + \frac{3}{5} J_{2,0} \right) \lambda + \frac{7}{10} H_{2,0} - \frac{4}{5} G_{2,0} - \frac{2}{15} F_{2,0} + \frac{4}{15} J_{2,0} \right) K^8 + \left(\left(\frac{2}{15} H_{2,0} \right. \right. \\
& \left. \left. + \frac{1}{15} A_{2,0} - \frac{2}{15} F_{2,0} + \frac{2}{5} G_{2,0} - \frac{1}{10} B_{2,0} \right) \lambda^2 + \left(-\frac{1}{3} A_{2,0} + \frac{7}{10} B_{2,0} + \frac{3}{5} F_{2,0} \right. \right. \\
& \left. \left. - 6 G_{2,0} + \frac{5}{3} H_{2,0} + \frac{3}{5} J_{2,0} \right) \lambda - \frac{23}{10} G_{2,0} - \frac{2}{15} F_{2,0} + \frac{6}{5} H_{2,0} + \frac{4}{15} J_{2,0} \right) K^6 \\
& + \left(\left(\frac{2}{15} H_{2,0} - \frac{1}{10} A_{2,0} + \frac{1}{5} F_{2,0} \right) \lambda^2 + \left(\frac{1}{2} A_{2,0} - \frac{12}{5} F_{2,0} + \frac{5}{3} H_{2,0} \right. \right. \\
& \left. \left. + \frac{3}{5} J_{2,0} \right) \lambda - \frac{13}{10} F_{2,0} + \frac{6}{5} H_{2,0} + \frac{4}{15} J_{2,0} \right) K^4 + \left(\frac{2}{15} \lambda^2 H_{2,0} + \left(\frac{5}{3} H_{2,0} \right. \right. \\
& \left. \left. - \frac{2}{5} J_{2,0} \right) \lambda + \frac{1}{10} J_{2,0} + \frac{6}{5} H_{2,0} \right) K^2 - \frac{1}{5} H_{2,0} \left(\lambda^2 - \frac{7}{2} \right) \Big) \Big/ \left((K-1) \left((\lambda^2 \right. \right. \\
& \left. \left. - 1) (\lambda - 1) K^{12} + 2 (\lambda^2 - 1) (\lambda - 1) K^{10} + 3 (\lambda^2 - 1) (\lambda - 1) K^8 + (12 \lambda \right. \right. \\
& \left. \left. - 3 \lambda^2) K^6 - 3 (\lambda^2 + 1) (\lambda + 1) K^4 - 2 (\lambda^2 + 1) (\lambda + 1) K^2 - (\lambda^2 + 1) (\lambda + 1) \right) \right) \\
& (K + 1) \Big) :
\end{aligned}$$

$$\begin{aligned}
> Cc_{4,1} := & \frac{1}{16} \left((-6 (\lambda^2 - 1) (\lambda - 1) K^{14} - 6 (\lambda^2 - 1) (\lambda - 1) K^{12} - 6 (\lambda^2 - 1) (\lambda \right. \\
& \left. - 1) K^{10} + ((138 \lambda - 30) \lambda^2 - 90 \lambda + 18) K^8 + ((-102 \lambda - 30) \lambda^2 + 90 \lambda \right. \\
& \left. + 18) K^6 - 6 (\lambda^2 + 1) (\lambda + 1) K^4 - 6 (\lambda^2 + 1) (\lambda + 1) K^2 - 6 (\lambda^2 + 1) (\lambda + 1) \right) \\
& \left(\frac{d}{dt} L_{4,1}(t) \right) - 30 \left((\lambda - 1) K^8 - \lambda - 1 \right) \lambda^2 K^4 \left(\frac{d}{dt} M_{4,1}(t) \right) + \left(2 (\lambda \right. \\
& \left. - 1) \left((Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} - 4 Gc_{2,0} + 2 Hc_{2,0}) \lambda^2 + (10 Cc_{2,0} + 6 Ec_{2,0} \right. \right. \\
& \left. \left. - 11 Fc_{2,0} - 37 Gc_{2,0} - 7 Hc_{2,0} - 5 Jc_{2,0}) \lambda^2 + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 - 9 Cc_{2,0} \right. \right. \\
& \left. \left. - 3 Ec_{2,0} - \frac{1}{2} \right) K^{14} + 2 (\lambda - 1) \left((Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} - 4 Gc_{2,0} + 2 Hc_{2,0}) \lambda^2 \right. \right. \\
& \left. \left. + (10 Cc_{2,0} + 6 Ec_{2,0} - 11 Fc_{2,0} - 37 Gc_{2,0} - 7 Hc_{2,0} - 5 Jc_{2,0}) \lambda^2 + \left(\frac{1}{2} cc_{1,0}^2 + \right. \right. \right. \\
& \left. \left. ec_{1,0}^2 \right) S2 - bc_{1,0}^2 - 9 Cc_{2,0} - 3 Ec_{2,0} - \frac{1}{2} \right) K^{12} + 2 (\lambda - 1) \left((Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} \right. \\
& \left. \left. - 4 Gc_{2,0} + 2 Hc_{2,0}) \lambda^2 + (10 Cc_{2,0} + 6 Ec_{2,0} - 11 Fc_{2,0} - 37 Gc_{2,0} - 7 Hc_{2,0} \right. \right.
\end{aligned}$$

$$\begin{aligned}
& -5 J_{c_{2,0}}) \lambda^2 + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 - 9 C c_{2,0} - 3 E c_{2,0} - \frac{1}{2} \Big) K^{10} + \Big(\\
& -30 (A c_{2,0} + B c_{2,0} - 2 F c_{2,0} - 4 G c_{2,0} + 2 H c_{2,0}) \left(\lambda I - \frac{1}{5} \right) \lambda^2 + \Big((-60 C c_{2,0} \\
& - 36 E c_{2,0} - 246 F c_{2,0} - 330 G c_{2,0} + 210 H c_{2,0} + 54 J c_{2,0}) \lambda I + 78 F c_{2,0} + 138 G c_{2,0} \\
& - 42 H c_{2,0} - 6 J c_{2,0}) \lambda^2 + 270 \left(\lambda I - \frac{1}{5} \right) \Big(\left(-\frac{1}{18} c c_{1,0}^2 - \frac{1}{9} e c_{1,0}^2 \right) S_2 + \frac{1}{9} b c_{1,0}^2 \\
& + C c_{2,0} + \frac{1}{3} E c_{2,0} + \frac{1}{18} \Big) \Big) K^8 + \Big(30 (A c_{2,0} + B c_{2,0} - 2 F c_{2,0} - 4 G c_{2,0} \\
& + 2 H c_{2,0}) \left(\lambda I + \frac{1}{5} \right) \lambda^2 + \Big((-60 C c_{2,0} - 36 E c_{2,0} + 354 F c_{2,0} + 630 G c_{2,0} + 90 H c_{2,0} \\
& + 54 J c_{2,0}) \lambda I + 78 F c_{2,0} + 138 G c_{2,0} - 42 H c_{2,0} - 6 J c_{2,0}) \lambda^2 - 270 \left(\lambda I + \frac{1}{5} \right) \Big(\left(-\frac{1}{18} c c_{1,0}^2 - \frac{1}{9} e c_{1,0}^2 \right) S_2 + \frac{1}{9} b c_{1,0}^2 + C c_{2,0} + \frac{1}{3} E c_{2,0} + \frac{1}{18} \Big) \Big) K^6 - 2 (\lambda I \\
& + 1) \Big((A c_{2,0} + B c_{2,0} - 2 F c_{2,0} - 4 G c_{2,0} + 2 H c_{2,0}) \lambda^2 + (-10 C c_{2,0} - 6 E c_{2,0} \\
& + 7 F c_{2,0} + 13 G c_{2,0} + 43 H c_{2,0} + 13 J c_{2,0}) \lambda^2 + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 - 9 C c_{2,0} - 3 E c_{2,0} - \frac{1}{2} \Big) K^4 - 2 (\lambda I + 1) \Big((A c_{2,0} + B c_{2,0} - 2 F c_{2,0} - 4 G c_{2,0} + 2 H c_{2,0}) \lambda^2 \\
& + (-10 C c_{2,0} - 6 E c_{2,0} + 7 F c_{2,0} + 13 G c_{2,0} + 43 H c_{2,0} + 13 J c_{2,0}) \lambda^2 + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 - 9 C c_{2,0} - 3 E c_{2,0} - \frac{1}{2} \Big) K^2 - 2 (\lambda I + 1) \Big((A c_{2,0} + B c_{2,0} - 2 F c_{2,0} \\
& - 4 G c_{2,0} + 2 H c_{2,0}) \lambda^2 + (-10 C c_{2,0} - 6 E c_{2,0} + 7 F c_{2,0} + 13 G c_{2,0} + 43 H c_{2,0} \\
& + 13 J c_{2,0}) \lambda^2 + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 - 9 C c_{2,0} - 3 E c_{2,0} - \frac{1}{2} \Big) \Big) L_{2,0}(t) \\
& + \Big(12 \Big(\left(-\frac{1}{3} F_{2,0} - \frac{2}{3} G_{2,0} + \frac{1}{3} H_{2,0} + \frac{1}{6} A_{2,0} + \frac{1}{6} B_{2,0} \right) \lambda^2 + \left(E_{2,0} - \frac{11}{6} F_{2,0} - \frac{37}{6} G_{2,0} - \frac{7}{6} H_{2,0} - \frac{5}{6} J_{2,0} + \frac{5}{3} C_{2,0} \right) \lambda^2 - \frac{1}{2} E_{2,0} - \frac{3}{2} C_{2,0} \Big) (\lambda I - 1) K^{14} \\
& + 12 \Big(\left(-\frac{1}{3} F_{2,0} - \frac{2}{3} G_{2,0} + \frac{1}{3} H_{2,0} + \frac{1}{6} A_{2,0} + \frac{1}{6} B_{2,0} \right) \lambda^2 + \left(E_{2,0} - \frac{11}{6} F_{2,0} - \frac{37}{6} G_{2,0} - \frac{7}{6} H_{2,0} - \frac{5}{6} J_{2,0} + \frac{5}{3} C_{2,0} \right) \lambda^2 - \frac{1}{2} E_{2,0} - \frac{3}{2} C_{2,0} \Big) (\lambda I - 1) K^{12} \\
& + 12 \Big(\left(-\frac{1}{3} F_{2,0} - \frac{2}{3} G_{2,0} + \frac{1}{3} H_{2,0} + \frac{1}{6} A_{2,0} + \frac{1}{6} B_{2,0} \right) \lambda^2 + \left(E_{2,0} - \frac{11}{6} F_{2,0} - \frac{37}{6} G_{2,0} - \frac{7}{6} H_{2,0} - \frac{5}{6} J_{2,0} + \frac{5}{3} C_{2,0} \right) \lambda^2 - \frac{1}{2} E_{2,0} - \frac{3}{2} C_{2,0} \Big) (\lambda I - 1) K^{10} \\
& + \Big(60 \left(\lambda I - \frac{1}{5} \right) \left(F_{2,0} + 2 G_{2,0} - H_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) \lambda^2 + \Big((-36 E_{2,0} \\
& - 246 F_{2,0} - 330 G_{2,0} + 210 H_{2,0} + 54 J_{2,0} - 60 C_{2,0}) \lambda I + 78 F_{2,0} + 138 G_{2,0} - 42 H_{2,0} \\
& - 6 J_{2,0}) \lambda^2 + 90 \left(\lambda I - \frac{1}{5} \right) (E_{2,0} + 3 C_{2,0}) \Big) K^8 + \Big(-60 \left(\lambda I + \frac{1}{5} \right) \left(F_{2,0} + 2 G_{2,0} \right.
\end{aligned}$$

$$\begin{aligned}
& -H_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \Big) \lambda^2 + \Big((-36 E_{2,0} + 354 F_{2,0} + 630 G_{2,0} + 90 H_{2,0} + 54 J_{2,0} \\
& - 60 C_{2,0}) \lambda I + 78 F_{2,0} + 138 G_{2,0} - 42 H_{2,0} - 6 J_{2,0} \Big) \lambda^2 - 90 \left(\lambda I + \frac{1}{5} \right) (E_{2,0} \\
& + 3 C_{2,0}) \Big) K^6 + 12 (\lambda I + 1) \left(\left(\frac{1}{3} F_{2,0} + \frac{2}{3} G_{2,0} - \frac{1}{3} H_{2,0} - \frac{1}{6} A_{2,0} - \frac{1}{6} B_{2,0} \right) \lambda^2 \right. \\
& + \left(E_{2,0} - \frac{7}{6} F_{2,0} - \frac{13}{6} G_{2,0} - \frac{43}{6} H_{2,0} - \frac{13}{6} J_{2,0} + \frac{5}{3} C_{2,0} \right) \lambda^2 + \frac{1}{2} E_{2,0} \\
& + \frac{3}{2} C_{2,0} \Big) K^4 + 12 (\lambda I + 1) \left(\left(\frac{1}{3} F_{2,0} + \frac{2}{3} G_{2,0} - \frac{1}{3} H_{2,0} - \frac{1}{6} A_{2,0} - \frac{1}{6} B_{2,0} \right) \lambda^2 \right. \\
& + \left(E_{2,0} - \frac{7}{6} F_{2,0} - \frac{13}{6} G_{2,0} - \frac{43}{6} H_{2,0} - \frac{13}{6} J_{2,0} + \frac{5}{3} C_{2,0} \right) \lambda^2 + \frac{1}{2} E_{2,0} \\
& + \frac{3}{2} C_{2,0} \Big) K^2 + 12 (\lambda I + 1) \left(\left(\frac{1}{3} F_{2,0} + \frac{2}{3} G_{2,0} - \frac{1}{3} H_{2,0} - \frac{1}{6} A_{2,0} - \frac{1}{6} B_{2,0} \right) \lambda^2 \right. \\
& + \left(E_{2,0} - \frac{7}{6} F_{2,0} - \frac{13}{6} G_{2,0} - \frac{43}{6} H_{2,0} - \frac{13}{6} J_{2,0} + \frac{5}{3} C_{2,0} \right) \lambda^2 + \frac{1}{2} E_{2,0} \\
& + \frac{3}{2} C_{2,0} \Big) \Big) Lc_{2,0}(t) + \left(42 \lambda^2 \left(\left(-\frac{1}{7} Bc_{2,0} + \frac{4}{7} Gc_{2,0} \right) \lambda^2 + \left(Bc_{2,0} + \frac{10}{7} Gc_{2,0} \right) \lambda I \right. \right. \\
& - \left. \frac{23}{7} Gc_{2,0} \right) K^{14} + \Big((-6 Ac_{2,0} + 4 Bc_{2,0} + 12 Fc_{2,0} - 16 Gc_{2,0}) \lambda^2 + \Big((30 Ac_{2,0} \\
& - 28 Bc_{2,0} + 36 Fc_{2,0} + 100 Gc_{2,0}) \lambda I - 78 Fc_{2,0} - 48 Gc_{2,0} \Big) \lambda^2 + 3 S2 \left(Sl ac_{1,0}^2 - \right. \\
& cc_{1,0}^2 \Big) \Big) K^{12} + \Big((4 Ac_{2,0} + 4 Bc_{2,0} - 8 Fc_{2,0} - 16 Gc_{2,0}) \lambda^2 + \Big((-20 Ac_{2,0} - 28 Bc_{2,0} \\
& + 36 Fc_{2,0} + 100 Gc_{2,0} - 84 Jc_{2,0}) \lambda I - 8 Fc_{2,0} - 48 Gc_{2,0} + 6 Jc_{2,0} \Big) \lambda^2 - 2 S2 \left(Sl ac_{1,0}^2 - \right. \\
& - cc_{1,0}^2 \Big) \Big) K^{10} + \Big((4 Ac_{2,0} + 4 Bc_{2,0} - 8 Fc_{2,0} - 16 Gc_{2,0} - 12 Hc_{2,0}) \lambda^2 + \Big((-20 Ac_{2,0} \\
& - 28 Bc_{2,0} + 36 Fc_{2,0} + 100 Gc_{2,0} - 300 Hc_{2,0} + 36 Jc_{2,0}) \lambda I - 8 Fc_{2,0} - 48 Gc_{2,0} \\
& + 42 Hc_{2,0} + 16 Jc_{2,0} \Big) \lambda^2 - 2 S2 \left(Sl ac_{1,0}^2 - cc_{1,0}^2 + 3 ec_{1,0}^2 \right) \Big) K^8 + \Big((4 Ac_{2,0} - 6 Bc_{2,0} \\
& - 8 Fc_{2,0} + 24 Gc_{2,0} + 8 Hc_{2,0}) \lambda^2 + \Big((-20 Ac_{2,0} + 42 Bc_{2,0} + 36 Fc_{2,0} - 360 Gc_{2,0} \\
& + 100 Hc_{2,0} + 36 Jc_{2,0}) \lambda I - 8 Fc_{2,0} - 138 Gc_{2,0} + 72 Hc_{2,0} + 16 Jc_{2,0} \Big) \lambda^2 - 2 \left(Sl ac_{1,0}^2 - \right. \\
& - cc_{1,0}^2 - 2 ec_{1,0}^2 \Big) S2 \Big) K^6 + \Big((-6 Ac_{2,0} + 12 Fc_{2,0} + 8 Hc_{2,0}) \lambda^2 + \Big((30 Ac_{2,0} \\
& - 144 Fc_{2,0} + 100 Hc_{2,0} + 36 Jc_{2,0}) \lambda I - 78 Fc_{2,0} + 72 Hc_{2,0} + 16 Jc_{2,0} \Big) \lambda^2 + 3 \left(\right. \\
& ac_{1,0}^2 Sl - cc_{1,0}^2 + \frac{4}{3} ec_{1,0}^2 \Big) S2 \Big) K^4 + \Big(8 \lambda^2 Hc_{2,0} + \Big((100 Hc_{2,0} - 24 Jc_{2,0}) \lambda I \\
& + 72 Hc_{2,0} + 6 Jc_{2,0} \Big) \lambda^2 + 4 S2 ec_{1,0}^2 \Big) K^2 - 12 \lambda^2 Hc_{2,0} - 6 S2 ec_{1,0}^2 + 42 \lambda^2 Hc_{2,0} \Big) \\
& M_{2,0}(t) + 60 \lambda^2 \left(\left(\left(-\frac{1}{10} B_{2,0} + \frac{2}{5} G_{2,0} \right) \lambda^2 + \left(\frac{7}{10} B_{2,0} + G_{2,0} \right) \lambda I - \frac{23}{10} G_{2,0} \right) K^{14} \right. \\
& + \left(\left(-\frac{4}{15} G_{2,0} + \frac{1}{5} F_{2,0} - \frac{1}{10} A_{2,0} + \frac{1}{15} B_{2,0} \right) \lambda^2 + \left(-\frac{7}{15} B_{2,0} + \frac{1}{2} A_{2,0} \right) \right.
\end{aligned}$$

$$\begin{aligned}
& + \frac{3}{5} F_{2,0} + \frac{5}{3} G_{2,0} \Big) \lambda l - \frac{13}{10} F_{2,0} - \frac{4}{5} G_{2,0} \Big) K^{12} + \Big(\Big(-\frac{2}{15} F_{2,0} - \frac{4}{15} G_{2,0} \\
& + \frac{1}{15} A_{2,0} + \frac{1}{15} B_{2,0} \Big) \lambda l + \Big(-\frac{7}{15} B_{2,0} - \frac{1}{3} A_{2,0} + \frac{5}{3} G_{2,0} - \frac{7}{5} J_{2,0} + \frac{3}{5} F_{2,0} \Big) \lambda l \\
& + \frac{1}{10} J_{2,0} - \frac{2}{15} F_{2,0} - \frac{4}{5} G_{2,0} \Big) K^{10} + \Big(\Big(-\frac{2}{15} F_{2,0} + \frac{1}{15} B_{2,0} - \frac{4}{15} G_{2,0} \\
& + \frac{1}{15} A_{2,0} - \frac{1}{5} H_{2,0} \Big) \lambda l + \Big(-\frac{1}{3} A_{2,0} - \frac{7}{15} B_{2,0} + \frac{3}{5} F_{2,0} + \frac{5}{3} G_{2,0} - 5 H_{2,0} \\
& + \frac{3}{5} J_{2,0} \Big) \lambda l + \frac{7}{10} H_{2,0} - \frac{4}{5} G_{2,0} - \frac{2}{15} F_{2,0} + \frac{4}{15} J_{2,0} \Big) K^8 + \Big(\Big(\frac{2}{15} H_{2,0} \\
& + \frac{1}{15} A_{2,0} - \frac{2}{15} F_{2,0} + \frac{2}{5} G_{2,0} - \frac{1}{10} B_{2,0} \Big) \lambda l + \Big(-\frac{1}{3} A_{2,0} + \frac{7}{10} B_{2,0} + \frac{3}{5} F_{2,0} \\
& - 6 G_{2,0} + \frac{5}{3} H_{2,0} + \frac{3}{5} J_{2,0} \Big) \lambda l - \frac{23}{10} G_{2,0} - \frac{2}{15} F_{2,0} + \frac{6}{5} H_{2,0} + \frac{4}{15} J_{2,0} \Big) K^6 \\
& + \Big(\Big(\frac{2}{15} H_{2,0} - \frac{1}{10} A_{2,0} + \frac{1}{5} F_{2,0} \Big) \lambda l + \Big(\frac{1}{2} A_{2,0} - \frac{12}{5} F_{2,0} + \frac{5}{3} H_{2,0} \\
& + \frac{3}{5} J_{2,0} \Big) \lambda l - \frac{13}{10} F_{2,0} + \frac{6}{5} H_{2,0} + \frac{4}{15} J_{2,0} \Big) K^4 + \Big(\frac{2}{15} \lambda l H_{2,0} + \Big(\frac{5}{3} H_{2,0} \\
& - \frac{2}{5} J_{2,0} \Big) \lambda l + \frac{1}{10} J_{2,0} + \frac{6}{5} H_{2,0} \Big) K^2 - \frac{1}{5} H_{2,0} \Big(\lambda l - \frac{7}{2} \Big) \Big) M c_{2,0}(t) \Big) / \Big((K \\
& - 1) \Big((\lambda l - 1) (\lambda l - 1) K^{12} + 2 (\lambda l - 1) (\lambda l - 1) K^{10} + 3 (\lambda l - 1) (\lambda l - 1) K^8 \\
& + (12 \lambda l - 3 \lambda l) K^6 - 3 (\lambda l + 1) (\lambda l + 1) K^4 - 2 (\lambda l + 1) (\lambda l + 1) K^2 - (\lambda l \\
& + 1) (\lambda l + 1) \Big) (K + 1) \Big) :
\end{aligned}$$

$$\begin{aligned}
> E_{4,1} := & \frac{1}{16} \Big(\Big(-10 (\lambda l - 1) (\lambda l - 1) K^{14} - 10 (\lambda l - 1) (\lambda l - 1) K^{12} - 10 (\lambda l - 1) (\lambda l \\
& - 1) K^{10} + 150 \Big(\lambda l - \frac{1}{5} \Big) (\lambda l - 1) K^8 + \Big((-90 \lambda l - 30) \lambda l + 150 \lambda l + 30 \Big) K^6 \\
& - 10 (\lambda l + 1) (\lambda l + 1) K^4 - 10 (\lambda l + 1) (\lambda l + 1) K^2 - 10 (\lambda l + 1) (\lambda l + 1) \Big) \\
& \Big(\frac{d}{dt} L c_{4,1}(t) \Big) - 30 \Big((\lambda l - 1) K^8 - \lambda l - 1 \Big) \lambda l K^4 \Big(\frac{d}{dt} M c_{4,1}(t) \Big) + \Big(2 (\lambda l \\
& - 1) \Big((A c_{2,0} + B c_{2,0} - 2 F c_{2,0} - 4 G c_{2,0} + 2 H c_{2,0}) \lambda l^2 + (4 E c_{2,0} - 11 F c_{2,0} \\
& - 37 G c_{2,0} - 7 H c_{2,0} - 5 J c_{2,0}) \lambda l + \Big(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \Big) S2 - b c_{1,0}^2 + C c_{2,0} - E c_{2,0} \\
& - \frac{1}{2} \Big) K^{14} + 2 (\lambda l - 1) \Big((A c_{2,0} + B c_{2,0} - 2 F c_{2,0} - 4 G c_{2,0} + 2 H c_{2,0}) \lambda l^2 + (4 E c_{2,0} \\
& - 11 F c_{2,0} - 37 G c_{2,0} - 7 H c_{2,0} - 5 J c_{2,0}) \lambda l + \Big(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \Big) S2 - b c_{1,0}^2 + C c_{2,0} \\
& - E c_{2,0} - \frac{1}{2} \Big) K^{12} + 2 (\lambda l - 1) \Big((A c_{2,0} + B c_{2,0} - 2 F c_{2,0} - 4 G c_{2,0} + 2 H c_{2,0}) \lambda l^2 \\
& + (4 E c_{2,0} - 11 F c_{2,0} - 37 G c_{2,0} - 7 H c_{2,0} - 5 J c_{2,0}) \lambda l + \Big(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \Big) S2 - b c_{1,0}^2 \\
& + C c_{2,0} - E c_{2,0} - \frac{1}{2} \Big) K^{10} + \Big(-30 (A c_{2,0} + B c_{2,0} - 2 F c_{2,0} - 4 G c_{2,0} + 2 H c_{2,0}) \Big(\lambda l \\
& - \frac{1}{5} \Big) \lambda l^2 + \Big((-24 E c_{2,0} - 246 F c_{2,0} - 330 G c_{2,0} + 210 H c_{2,0} + 54 J c_{2,0}) \lambda l + 78 F c_{2,0}
\end{aligned}$$

$$\begin{aligned}
& + 138 G_{2,0} - 42 H_{2,0} - 6 J_{2,0} \lambda^2 - 30 \left(\lambda - \frac{1}{5} \right) \left(\left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 \right. \\
& + C_{2,0} - E_{2,0} - \frac{1}{2} \left. \right) K^8 + \left(30 (A_{2,0} + B_{2,0} - 2 F_{2,0} - 4 G_{2,0} + 2 H_{2,0}) \left(\lambda \right. \right. \\
& + \frac{1}{5} \left. \right) \lambda^2 + \left((-24 E_{2,0} + 354 F_{2,0} + 630 G_{2,0} + 90 H_{2,0} + 54 J_{2,0}) \lambda + 78 F_{2,0} \right. \\
& + 138 G_{2,0} - 42 H_{2,0} - 6 J_{2,0} \left. \right) \lambda^2 + 30 \left(\lambda + \frac{1}{5} \right) \left(\left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 \right. \\
& + C_{2,0} - E_{2,0} - \frac{1}{2} \left. \right) K^6 - 2 (\lambda + 1) \left((A_{2,0} + B_{2,0} - 2 F_{2,0} - 4 G_{2,0} \right. \\
& + 2 H_{2,0}) \lambda^2 + (-4 E_{2,0} + 7 F_{2,0} + 13 G_{2,0} + 43 H_{2,0} + 13 J_{2,0}) \lambda + \left(\frac{1}{2} c c_{1,0}^2 \right. \\
& + e c_{1,0}^2 \left. \right) S_2 - b c_{1,0}^2 + C_{2,0} - E_{2,0} - \frac{1}{2} \left. \right) K^4 - 2 (\lambda + 1) \left((A_{2,0} + B_{2,0} - 2 F_{2,0} \right. \\
& - 4 G_{2,0} + 2 H_{2,0}) \lambda^2 + (-4 E_{2,0} + 7 F_{2,0} + 13 G_{2,0} + 43 H_{2,0} + 13 J_{2,0}) \lambda \\
& + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 + C_{2,0} - E_{2,0} - \frac{1}{2} \left. \right) K^2 - 2 (\lambda + 1) \left((A_{2,0} + B_{2,0} \right. \\
& - 2 F_{2,0} - 4 G_{2,0} + 2 H_{2,0}) \lambda^2 + (-4 E_{2,0} + 7 F_{2,0} + 13 G_{2,0} + 43 H_{2,0} \\
& + 13 J_{2,0}) \lambda + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 + C_{2,0} - E_{2,0} - \frac{1}{2} \left. \right) L_{C_{2,0}}(t) + \left(\right. \\
& - 8 \left(\left(-\frac{1}{2} F_{2,0} - G_{2,0} + \frac{1}{2} H_{2,0} + \frac{1}{4} A_{2,0} + \frac{1}{4} B_{2,0} \right) \lambda^2 + \left(E_{2,0} - \frac{11}{4} F_{2,0} \right. \right. \\
& - \frac{37}{4} G_{2,0} - \frac{7}{4} H_{2,0} - \frac{5}{4} J_{2,0} \left. \right) \lambda^2 - \frac{1}{4} E_{2,0} + \frac{1}{4} C_{2,0} \left. \right) (\lambda - 1) K^{14} - 8 \left(\left(\right. \right. \\
& - \frac{1}{2} F_{2,0} - G_{2,0} + \frac{1}{2} H_{2,0} + \frac{1}{4} A_{2,0} + \frac{1}{4} B_{2,0} \left. \right) \lambda^2 + \left(E_{2,0} - \frac{11}{4} F_{2,0} - \frac{37}{4} G_{2,0} \right. \\
& - \frac{7}{4} H_{2,0} - \frac{5}{4} J_{2,0} \left. \right) \lambda^2 - \frac{1}{4} E_{2,0} + \frac{1}{4} C_{2,0} \left. \right) (\lambda - 1) K^{12} - 8 \left(\left(-\frac{1}{2} F_{2,0} - G_{2,0} \right. \right. \\
& + \frac{1}{2} H_{2,0} + \frac{1}{4} A_{2,0} + \frac{1}{4} B_{2,0} \left. \right) \lambda^2 + \left(E_{2,0} - \frac{11}{4} F_{2,0} - \frac{37}{4} G_{2,0} - \frac{7}{4} H_{2,0} \right. \\
& - \frac{5}{4} J_{2,0} \left. \right) \lambda^2 - \frac{1}{4} E_{2,0} + \frac{1}{4} C_{2,0} \left. \right) (\lambda - 1) K^{10} + \left(-60 \left(\lambda - \frac{1}{5} \right) \left(F_{2,0} + 2 G_{2,0} \right. \right. \\
& - H_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \left. \right) \lambda^2 + \left((24 E_{2,0} + 246 F_{2,0} + 330 G_{2,0} - 210 H_{2,0} \right. \\
& - 54 J_{2,0}) \lambda - 78 F_{2,0} - 138 G_{2,0} + 42 H_{2,0} + 6 J_{2,0} \left. \right) \lambda^2 - 30 \left(\lambda - \frac{1}{5} \right) (E_{2,0} \\
& - C_{2,0}) \left. \right) K^8 + \left(60 \left(\lambda + \frac{1}{5} \right) \left(F_{2,0} + 2 G_{2,0} - H_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) \lambda^2 \right. \\
& + \left((24 E_{2,0} - 354 F_{2,0} - 630 G_{2,0} - 90 H_{2,0} - 54 J_{2,0}) \lambda - 78 F_{2,0} - 138 G_{2,0} \right. \\
& + 42 H_{2,0} + 6 J_{2,0} \left. \right) \lambda^2 + 30 \left(\lambda + \frac{1}{5} \right) (E_{2,0} - C_{2,0}) \left. \right) K^6 - 8 (\lambda + 1) \left(\left(\frac{1}{2} F_{2,0} \right. \right. \\
& + G_{2,0} - \frac{1}{2} H_{2,0} - \frac{1}{4} A_{2,0} - \frac{1}{4} B_{2,0} \left. \right) \lambda^2 + \left(E_{2,0} - \frac{7}{4} F_{2,0} - \frac{13}{4} G_{2,0} - \frac{43}{4} H_{2,0} \right. \\
& - \frac{13}{4} J_{2,0} \left. \right) \lambda^2 + \frac{1}{4} E_{2,0} - \frac{1}{4} C_{2,0} \left. \right) K^4 - 8 (\lambda + 1) \left(\left(\frac{1}{2} F_{2,0} + G_{2,0} - \frac{1}{2} H_{2,0} \right. \right.
\end{aligned}$$

$$\begin{aligned}
& -\frac{1}{4} A_{2,0} - \frac{1}{4} B_{2,0} \Big) \lambda^2 + \left(E_{2,0} - \frac{7}{4} F_{2,0} - \frac{13}{4} G_{2,0} - \frac{43}{4} H_{2,0} - \frac{13}{4} J_{2,0} \right) \lambda \\
& + \frac{1}{4} E_{2,0} - \frac{1}{4} C_{2,0} \Big) K^2 - 8 (\lambda I + 1) \left(\left(\frac{1}{2} F_{2,0} + G_{2,0} - \frac{1}{2} H_{2,0} - \frac{1}{4} A_{2,0} \right. \right. \\
& \left. \left. - \frac{1}{4} B_{2,0} \right) \lambda^2 + \left(E_{2,0} - \frac{7}{4} F_{2,0} - \frac{13}{4} G_{2,0} - \frac{43}{4} H_{2,0} - \frac{13}{4} J_{2,0} \right) \lambda + \frac{1}{4} E_{2,0} \right. \\
& \left. \left. - \frac{1}{4} C_{2,0} \right) \right) L_{2,0}(t) + \left(42 \lambda^2 \left(\left(-\frac{1}{7} B c_{2,0} + \frac{4}{7} G c_{2,0} \right) \lambda + \left(B c_{2,0} + \frac{10}{7} G c_{2,0} \right) \lambda I \right. \right. \\
& \left. \left. - \frac{23}{7} G c_{2,0} \right) K^{14} + \left((-6 A c_{2,0} + 4 B c_{2,0} + 12 F c_{2,0} - 16 G c_{2,0}) \lambda^2 + \left((30 A c_{2,0} \right. \right. \right. \\
& \left. \left. - 28 B c_{2,0} + 36 F c_{2,0} + 100 G c_{2,0}) \lambda I - 78 F c_{2,0} - 48 G c_{2,0} \right) \lambda + 3 S2 \left(S1 a c_{1,0}^2 - \right. \right. \\
& \left. \left. c c_{1,0}^2 \right) \right) K^{12} + \left((4 A c_{2,0} + 4 B c_{2,0} - 8 F c_{2,0} - 16 G c_{2,0}) \lambda^2 + \left((-20 A c_{2,0} - 28 B c_{2,0} \right. \right. \\
& \left. \left. + 36 F c_{2,0} + 100 G c_{2,0} - 84 J c_{2,0}) \lambda I - 8 F c_{2,0} - 48 G c_{2,0} + 6 J c_{2,0} \right) \lambda - 2 S2 \left(S1 a c_{1,0}^2 \right. \right. \\
& \left. \left. - c c_{1,0}^2 \right) \right) K^{10} + \left((4 A c_{2,0} + 4 B c_{2,0} - 8 F c_{2,0} - 16 G c_{2,0} - 12 H c_{2,0}) \lambda^2 + \left((-20 A c_{2,0} \right. \right. \\
& \left. \left. - 28 B c_{2,0} + 36 F c_{2,0} + 100 G c_{2,0} - 300 H c_{2,0} + 36 J c_{2,0}) \lambda I - 8 F c_{2,0} - 48 G c_{2,0} \right. \right. \\
& \left. \left. + 42 H c_{2,0} + 16 J c_{2,0} \right) \lambda - 2 S2 \left(S1 a c_{1,0}^2 - c c_{1,0}^2 + 3 e c_{1,0}^2 \right) \right) K^8 + \left((4 A c_{2,0} - 6 B c_{2,0} \right. \\
& \left. - 8 F c_{2,0} + 24 G c_{2,0} + 8 H c_{2,0}) \lambda^2 + \left((-20 A c_{2,0} + 42 B c_{2,0} + 36 F c_{2,0} - 360 G c_{2,0} \right. \right. \\
& \left. \left. + 100 H c_{2,0} + 36 J c_{2,0}) \lambda I - 8 F c_{2,0} - 138 G c_{2,0} + 72 H c_{2,0} + 16 J c_{2,0} \right) \lambda - 2 \left(S1 a c_{1,0}^2 \right. \right. \\
& \left. \left. - c c_{1,0}^2 - 2 e c_{1,0}^2 \right) S2 \right) K^6 + \left((-6 A c_{2,0} + 12 F c_{2,0} + 8 H c_{2,0}) \lambda^2 + \left((30 A c_{2,0} \right. \right. \\
& \left. \left. - 144 F c_{2,0} + 100 H c_{2,0} + 36 J c_{2,0}) \lambda I - 78 F c_{2,0} + 72 H c_{2,0} + 16 J c_{2,0} \right) \lambda + 3 \left(\right. \\
& \left. a c_{1,0}^2 S1 - c c_{1,0}^2 + \frac{4}{3} e c_{1,0}^2 \right) S2 \Big) K^4 + \left(8 \lambda^2 H c_{2,0} + \left((100 H c_{2,0} - 24 J c_{2,0}) \lambda I \right. \right. \\
& \left. \left. + 72 H c_{2,0} + 6 J c_{2,0} \right) \lambda + 4 S2 e c_{1,0}^2 \right) K^2 - 12 \lambda^2 H c_{2,0} - 6 S2 e c_{1,0}^2 + 42 \lambda H c_{2,0} \Big) \\
& M c_{2,0}(t) - 60 M_{2,0}(t) \lambda^2 \left(\left(\left(-\frac{1}{10} B_{2,0} + \frac{2}{5} G_{2,0} \right) \lambda + \left(\frac{7}{10} B_{2,0} + G_{2,0} \right) \lambda I \right. \right. \\
& \left. \left. - \frac{23}{10} G_{2,0} \right) K^{14} + \left(\left(-\frac{4}{15} G_{2,0} + \frac{1}{5} F_{2,0} - \frac{1}{10} A_{2,0} + \frac{1}{15} B_{2,0} \right) \lambda + \left(-\frac{7}{15} B_{2,0} \right. \right. \\
& \left. \left. + \frac{1}{2} A_{2,0} + \frac{3}{5} F_{2,0} + \frac{5}{3} G_{2,0} \right) \lambda I - \frac{13}{10} F_{2,0} - \frac{4}{5} G_{2,0} \right) K^{12} + \left(\left(-\frac{2}{15} F_{2,0} \right. \right. \\
& \left. \left. - \frac{4}{15} G_{2,0} + \frac{1}{15} A_{2,0} + \frac{1}{15} B_{2,0} \right) \lambda + \left(-\frac{7}{15} B_{2,0} - \frac{1}{3} A_{2,0} + \frac{5}{3} G_{2,0} - \frac{7}{5} J_{2,0} \right. \right. \\
& \left. \left. + \frac{3}{5} F_{2,0} \right) \lambda I + \frac{1}{10} J_{2,0} - \frac{2}{15} F_{2,0} - \frac{4}{5} G_{2,0} \right) K^{10} + \left(\left(-\frac{2}{15} F_{2,0} + \frac{1}{15} B_{2,0} \right. \right. \\
& \left. \left. - \frac{4}{15} G_{2,0} + \frac{1}{15} A_{2,0} - \frac{1}{5} H_{2,0} \right) \lambda + \left(-\frac{1}{3} A_{2,0} - \frac{7}{15} B_{2,0} + \frac{3}{5} F_{2,0} + \frac{5}{3} G_{2,0} \right. \right. \\
& \left. \left. - 5 H_{2,0} + \frac{3}{5} J_{2,0} \right) \lambda I + \frac{7}{10} H_{2,0} - \frac{4}{5} G_{2,0} - \frac{2}{15} F_{2,0} + \frac{4}{15} J_{2,0} \right) K^8 + \left(\left(\frac{2}{15} H_{2,0} \right. \right.
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{15} A_{2,0} - \frac{2}{15} F_{2,0} + \frac{2}{5} G_{2,0} - \frac{1}{10} B_{2,0} \Big) \lambda_2 + \left(-\frac{1}{3} A_{2,0} + \frac{7}{10} B_{2,0} + \frac{3}{5} F_{2,0} \right. \\
& \left. - 6 G_{2,0} + \frac{5}{3} H_{2,0} + \frac{3}{5} J_{2,0} \right) \lambda_1 - \frac{23}{10} G_{2,0} - \frac{2}{15} F_{2,0} + \frac{6}{5} H_{2,0} + \frac{4}{15} J_{2,0} \Big) K^6 \\
& + \left(\left(\frac{2}{15} H_{2,0} - \frac{1}{10} A_{2,0} + \frac{1}{5} F_{2,0} \right) \lambda_2 + \left(\frac{1}{2} A_{2,0} - \frac{12}{5} F_{2,0} + \frac{5}{3} H_{2,0} \right. \right. \\
& \left. \left. + \frac{3}{5} J_{2,0} \right) \lambda_1 - \frac{13}{10} F_{2,0} + \frac{6}{5} H_{2,0} + \frac{4}{15} J_{2,0} \right) K^4 + \left(\frac{2}{15} \lambda_2 H_{2,0} + \left(\frac{5}{3} H_{2,0} \right. \right. \\
& \left. \left. - \frac{2}{5} J_{2,0} \right) \lambda_1 + \frac{1}{10} J_{2,0} + \frac{6}{5} H_{2,0} \right) K^2 - \frac{1}{5} H_{2,0} \left(\lambda_2 - \frac{7}{2} \right) \Big) \Big) / \left((K-1) \left((\lambda_2 \right. \right. \\
& \left. \left. - 1) (\lambda_1 - 1) K^{12} + 2 (\lambda_2 - 1) (\lambda_1 - 1) K^{10} + 3 (\lambda_2 - 1) (\lambda_1 - 1) K^8 + (12 \lambda_1 \right. \right. \\
& \left. \left. - 3 \lambda_2) K^6 - 3 (\lambda_2 + 1) (\lambda_1 + 1) K^4 - 2 (\lambda_2 + 1) (\lambda_1 + 1) K^2 - (\lambda_2 + 1) (\lambda_1 + 1) \right) \right) \\
& (K+1) :
\end{aligned}$$

$$\begin{aligned}
> Ec_{4,1} := & \frac{1}{16} \left(\left(10 (\lambda_2 - 1) (\lambda_1 - 1) K^{14} + 10 (\lambda_2 - 1) (\lambda_1 - 1) K^{12} + 10 (\lambda_2 - 1) (\lambda_1 \right. \right. \\
& \left. \left. - 1) K^{10} - 150 \left(\lambda_1 - \frac{1}{5} \right) (\lambda_2 - 1) K^8 + ((90 \lambda_1 + 30) \lambda_2 - 150 \lambda_1 - 30) K^6 \right. \right. \\
& \left. \left. + 10 (\lambda_2 + 1) (\lambda_1 + 1) K^4 + 10 (\lambda_2 + 1) (\lambda_1 + 1) K^2 + 10 (\lambda_2 + 1) (\lambda_1 + 1) \right) \right. \\
& \left(\frac{d}{dt} L_{4,1}(t) \right) + 30 ((\lambda_1 - 1) K^8 - \lambda_1 - 1) \lambda_2 K^4 \left(\frac{d}{dt} M_{4,1}(t) \right) + \left(-2 (\lambda_1 \right. \\
& \left. - 1) \left((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda_2^2 + (4Ec_{2,0} - 11Fc_{2,0} \right. \right. \\
& \left. \left. - 37Gc_{2,0} - 7Hc_{2,0} - 5Jc_{2,0}) \lambda_2 + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 + Cc_{2,0} - Ec_{2,0} \right. \right. \\
& \left. \left. - \frac{1}{2} \right) K^{14} - 2 (\lambda_1 - 1) \left((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda_2^2 + (4Ec_{2,0} \right. \right. \\
& \left. \left. - 11Fc_{2,0} - 37Gc_{2,0} - 7Hc_{2,0} - 5Jc_{2,0}) \lambda_2 + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 + Cc_{2,0} \right. \right. \\
& \left. \left. - Ec_{2,0} - \frac{1}{2} \right) K^{12} - 2 (\lambda_1 - 1) \left((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda_2^2 \right. \right. \\
& \left. \left. + (4Ec_{2,0} - 11Fc_{2,0} - 37Gc_{2,0} - 7Hc_{2,0} - 5Jc_{2,0}) \lambda_2 + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 \right. \right. \\
& \left. \left. + Cc_{2,0} - Ec_{2,0} - \frac{1}{2} \right) K^{10} + \left(30 (Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \left(\lambda_1 \right. \right. \right. \\
& \left. \left. - \frac{1}{5} \right) \lambda_2^2 + ((24Ec_{2,0} + 246Fc_{2,0} + 330Gc_{2,0} - 210Hc_{2,0} - 54Jc_{2,0}) \lambda_1 - 78Fc_{2,0} \right. \right. \\
& \left. \left. - 138Gc_{2,0} + 42Hc_{2,0} + 6Jc_{2,0}) \lambda_2 + 30 \left(\lambda_1 - \frac{1}{5} \right) \left(\left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 \right. \right. \right. \\
& \left. \left. + Cc_{2,0} - Ec_{2,0} - \frac{1}{2} \right) \right) K^8 + \left(-30 (Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \left(\lambda_1 \right. \right. \right. \\
& \left. \left. + \frac{1}{5} \right) \lambda_2^2 + ((24Ec_{2,0} - 354Fc_{2,0} - 630Gc_{2,0} - 90Hc_{2,0} - 54Jc_{2,0}) \lambda_1 - 78Fc_{2,0} \right. \right. \\
& \left. \left. - 138Gc_{2,0} + 42Hc_{2,0} + 6Jc_{2,0}) \lambda_2 - 30 \left(\lambda_1 + \frac{1}{5} \right) \left(\left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 \right. \right. \right. \\
& \left. \left. + Cc_{2,0} - Ec_{2,0} - \frac{1}{2} \right) \right) K^6 + 2 (\lambda_1 + 1) \left((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} \right.
\end{aligned}$$

$$\begin{aligned}
& + 2 H_{c_{2,0}}) \lambda^2 + (-4 E_{c_{2,0}} + 7 F_{c_{2,0}} + 13 G_{c_{2,0}} + 43 H_{c_{2,0}} + 13 J_{c_{2,0}}) \lambda + \left(\frac{1}{2} c c_{1,0}^2 \right. \\
& \left. + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 + C_{c_{2,0}} - E_{c_{2,0}} - \frac{1}{2} \Big) K^4 + 2 (\lambda + 1) \Big((A_{c_{2,0}} + B_{c_{2,0}} - 2 F_{c_{2,0}} \\
& - 4 G_{c_{2,0}} + 2 H_{c_{2,0}}) \lambda^2 + (-4 E_{c_{2,0}} + 7 F_{c_{2,0}} + 13 G_{c_{2,0}} + 43 H_{c_{2,0}} + 13 J_{c_{2,0}}) \lambda \\
& + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 + C_{c_{2,0}} - E_{c_{2,0}} - \frac{1}{2} \Big) K^2 + 2 (\lambda + 1) \Big((A_{c_{2,0}} + B_{c_{2,0}} \\
& - 2 F_{c_{2,0}} - 4 G_{c_{2,0}} + 2 H_{c_{2,0}}) \lambda^2 + (-4 E_{c_{2,0}} + 7 F_{c_{2,0}} + 13 G_{c_{2,0}} + 43 H_{c_{2,0}} \\
& + 13 J_{c_{2,0}}) \lambda + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 + C_{c_{2,0}} - E_{c_{2,0}} - \frac{1}{2} \Big) \Big) L_{2,0}(t) + \Big(\\
& - 8 \Big(\Big(-\frac{1}{2} F_{2,0} - G_{2,0} + \frac{1}{2} H_{2,0} + \frac{1}{4} A_{2,0} + \frac{1}{4} B_{2,0} \Big) \lambda^2 + \Big(E_{2,0} - \frac{11}{4} F_{2,0} \\
& - \frac{37}{4} G_{2,0} - \frac{7}{4} H_{2,0} - \frac{5}{4} J_{2,0} \Big) \lambda - \frac{1}{4} E_{2,0} + \frac{1}{4} C_{2,0} \Big) (\lambda - 1) K^{14} - 8 \Big(\Big(\\
& - \frac{1}{2} F_{2,0} - G_{2,0} + \frac{1}{2} H_{2,0} + \frac{1}{4} A_{2,0} + \frac{1}{4} B_{2,0} \Big) \lambda^2 + \Big(E_{2,0} - \frac{11}{4} F_{2,0} - \frac{37}{4} G_{2,0} \\
& - \frac{7}{4} H_{2,0} - \frac{5}{4} J_{2,0} \Big) \lambda - \frac{1}{4} E_{2,0} + \frac{1}{4} C_{2,0} \Big) (\lambda - 1) K^{12} - 8 \Big(\Big(-\frac{1}{2} F_{2,0} - G_{2,0} \\
& + \frac{1}{2} H_{2,0} + \frac{1}{4} A_{2,0} + \frac{1}{4} B_{2,0} \Big) \lambda^2 + \Big(E_{2,0} - \frac{11}{4} F_{2,0} - \frac{37}{4} G_{2,0} - \frac{7}{4} H_{2,0} \\
& - \frac{5}{4} J_{2,0} \Big) \lambda - \frac{1}{4} E_{2,0} + \frac{1}{4} C_{2,0} \Big) (\lambda - 1) K^{10} + \Big(-60 \Big(\lambda - \frac{1}{5} \Big) \Big(F_{2,0} + 2 G_{2,0} \\
& - H_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \Big) \lambda^2 + \Big((24 E_{2,0} + 246 F_{2,0} + 330 G_{2,0} - 210 H_{2,0} \\
& - 54 J_{2,0}) \lambda - 78 F_{2,0} - 138 G_{2,0} + 42 H_{2,0} + 6 J_{2,0} \Big) \lambda - 30 \Big(\lambda - \frac{1}{5} \Big) (E_{2,0} \\
& - C_{2,0}) \Big) K^8 + \Big(60 \Big(\lambda + \frac{1}{5} \Big) \Big(F_{2,0} + 2 G_{2,0} - H_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \Big) \lambda^2 \\
& + \Big((24 E_{2,0} - 354 F_{2,0} - 630 G_{2,0} - 90 H_{2,0} - 54 J_{2,0}) \lambda - 78 F_{2,0} - 138 G_{2,0} \\
& + 42 H_{2,0} + 6 J_{2,0} \Big) \lambda + 30 \Big(\lambda + \frac{1}{5} \Big) (E_{2,0} - C_{2,0}) \Big) K^6 - 8 (\lambda + 1) \Big(\Big(\frac{1}{2} F_{2,0} \\
& + G_{2,0} - \frac{1}{2} H_{2,0} - \frac{1}{4} A_{2,0} - \frac{1}{4} B_{2,0} \Big) \lambda^2 + \Big(E_{2,0} - \frac{7}{4} F_{2,0} - \frac{13}{4} G_{2,0} - \frac{43}{4} H_{2,0} \\
& - \frac{13}{4} J_{2,0} \Big) \lambda + \frac{1}{4} E_{2,0} - \frac{1}{4} C_{2,0} \Big) K^4 - 8 (\lambda + 1) \Big(\Big(\frac{1}{2} F_{2,0} + G_{2,0} - \frac{1}{2} H_{2,0} \\
& - \frac{1}{4} A_{2,0} - \frac{1}{4} B_{2,0} \Big) \lambda^2 + \Big(E_{2,0} - \frac{7}{4} F_{2,0} - \frac{13}{4} G_{2,0} - \frac{43}{4} H_{2,0} - \frac{13}{4} J_{2,0} \Big) \lambda \\
& + \frac{1}{4} E_{2,0} - \frac{1}{4} C_{2,0} \Big) K^2 - 8 (\lambda + 1) \Big(\Big(\frac{1}{2} F_{2,0} + G_{2,0} - \frac{1}{2} H_{2,0} - \frac{1}{4} A_{2,0} \\
& - \frac{1}{4} B_{2,0} \Big) \lambda^2 + \Big(E_{2,0} - \frac{7}{4} F_{2,0} - \frac{13}{4} G_{2,0} - \frac{43}{4} H_{2,0} - \frac{13}{4} J_{2,0} \Big) \lambda + \frac{1}{4} E_{2,0} \\
& - \frac{1}{4} C_{2,0} \Big) \Big) L_{c_{2,0}}(t) + \Big(-42 \lambda \Big(\Big(-\frac{1}{7} B_{c_{2,0}} + \frac{4}{7} G_{c_{2,0}} \Big) \lambda + \Big(B_{c_{2,0}} \\
& + \frac{10}{7} G_{c_{2,0}} \Big) \lambda - \frac{23}{7} G_{c_{2,0}} \Big) K^{14} + \Big((6 A_{c_{2,0}} - 4 B_{c_{2,0}} - 12 F_{c_{2,0}} + 16 G_{c_{2,0}}) \lambda^2 \\
\end{aligned}$$

$$\begin{aligned}
& + \left((-30 A_{c_{2,0}} + 28 B_{c_{2,0}} - 36 F_{c_{2,0}} - 100 G_{c_{2,0}}) \lambda l + 78 F_{c_{2,0}} + 48 G_{c_{2,0}} \right) \lambda^2 \\
& - 3 S_2 \left(S_1 a c_{1,0}^2 - c c_{1,0}^2 \right) K^{12} + \left((-4 A_{c_{2,0}} - 4 B_{c_{2,0}} + 8 F_{c_{2,0}} + 16 G_{c_{2,0}}) \lambda^2 \right. \\
& + \left. \left(20 A_{c_{2,0}} + 28 B_{c_{2,0}} - 36 F_{c_{2,0}} - 100 G_{c_{2,0}} + 84 J_{c_{2,0}} \right) \lambda l + 8 F_{c_{2,0}} + 48 G_{c_{2,0}} \right. \\
& - \left. 6 J_{c_{2,0}} \right) \lambda^2 + 2 S_2 \left(S_1 a c_{1,0}^2 - c c_{1,0}^2 \right) K^{10} + \left((-4 A_{c_{2,0}} - 4 B_{c_{2,0}} + 8 F_{c_{2,0}} + 16 G_{c_{2,0}} \right. \\
& + \left. 12 H_{c_{2,0}} \right) \lambda^2 + \left(\left(20 A_{c_{2,0}} + 28 B_{c_{2,0}} - 36 F_{c_{2,0}} - 100 G_{c_{2,0}} + 300 H_{c_{2,0}} \right. \right. \\
& - \left. \left. 36 J_{c_{2,0}} \right) \lambda l + 8 F_{c_{2,0}} + 48 G_{c_{2,0}} - 42 H_{c_{2,0}} - 16 J_{c_{2,0}} \right) \lambda^2 + 2 S_2 \left(S_1 a c_{1,0}^2 - c c_{1,0}^2 \right. \\
& + \left. 3 e c_{1,0}^2 \right) K^8 + \left((-4 A_{c_{2,0}} + 6 B_{c_{2,0}} + 8 F_{c_{2,0}} - 24 G_{c_{2,0}} - 8 H_{c_{2,0}}) \lambda^2 + \left(\left(20 A_{c_{2,0}} \right. \right. \right. \\
& - \left. \left. 42 B_{c_{2,0}} - 36 F_{c_{2,0}} + 360 G_{c_{2,0}} - 100 H_{c_{2,0}} - 36 J_{c_{2,0}} \right) \lambda l + 8 F_{c_{2,0}} + 138 G_{c_{2,0}} \right. \\
& - \left. 72 H_{c_{2,0}} - 16 J_{c_{2,0}} \right) \lambda^2 + 2 \left(S_1 a c_{1,0}^2 - c c_{1,0}^2 - 2 e c_{1,0}^2 \right) S_2 K^6 + \left(\left(6 A_{c_{2,0}} - 12 F_{c_{2,0}} \right. \right. \\
& - \left. \left. 8 H_{c_{2,0}} \right) \lambda^2 + \left((-30 A_{c_{2,0}} + 144 F_{c_{2,0}} - 100 H_{c_{2,0}} - 36 J_{c_{2,0}}) \lambda l + 78 F_{c_{2,0}} \right. \right. \\
& - \left. \left. 72 H_{c_{2,0}} - 16 J_{c_{2,0}} \right) \lambda^2 - 3 \left(a c_{1,0}^2 S_1 - c c_{1,0}^2 + \frac{4}{3} e c_{1,0}^2 \right) S_2 \right) K^4 + \left(-8 \lambda^2 H_{c_{2,0}} \right. \\
& + \left((-100 H_{c_{2,0}} + 24 J_{c_{2,0}}) \lambda l - 72 H_{c_{2,0}} - 6 J_{c_{2,0}} \right) \lambda^2 - 4 S_2 e c_{1,0}^2 K^2 + 12 \lambda^2 H_{c_{2,0}} \\
& + \left. 6 S_2 e c_{1,0}^2 - 42 \lambda^2 H_{c_{2,0}} \right) M_{2,0}(t) - 60 \lambda^2 \left(\left(\left(-\frac{1}{10} B_{2,0} + \frac{2}{5} G_{2,0} \right) \lambda^2 + \left(\frac{7}{10} B_{2,0} \right. \right. \right. \\
& + \left. \left. G_{2,0} \right) \lambda l - \frac{23}{10} G_{2,0} \right) K^{14} + \left(\left(-\frac{4}{15} G_{2,0} + \frac{1}{5} F_{2,0} - \frac{1}{10} A_{2,0} + \frac{1}{15} B_{2,0} \right) \lambda^2 + \left(\right. \right. \\
& - \left. \left. \frac{7}{15} B_{2,0} + \frac{1}{2} A_{2,0} + \frac{3}{5} F_{2,0} + \frac{5}{3} G_{2,0} \right) \lambda l - \frac{13}{10} F_{2,0} - \frac{4}{5} G_{2,0} \right) K^{12} + \left(\left(\right. \right. \\
& - \left. \left. \frac{2}{15} F_{2,0} - \frac{4}{15} G_{2,0} + \frac{1}{15} A_{2,0} + \frac{1}{15} B_{2,0} \right) \lambda^2 + \left(-\frac{7}{15} B_{2,0} - \frac{1}{3} A_{2,0} + \frac{5}{3} G_{2,0} \right. \right. \\
& - \left. \left. \frac{7}{5} J_{2,0} + \frac{3}{5} F_{2,0} \right) \lambda l + \frac{1}{10} J_{2,0} - \frac{2}{15} F_{2,0} - \frac{4}{5} G_{2,0} \right) K^{10} + \left(\left(-\frac{2}{15} F_{2,0} \right. \right. \\
& + \left. \left. \frac{1}{15} B_{2,0} - \frac{4}{15} G_{2,0} + \frac{1}{15} A_{2,0} - \frac{1}{5} H_{2,0} \right) \lambda^2 + \left(-\frac{1}{3} A_{2,0} - \frac{7}{15} B_{2,0} + \frac{3}{5} F_{2,0} \right. \right. \\
& + \left. \left. \frac{5}{3} G_{2,0} - 5 H_{2,0} + \frac{3}{5} J_{2,0} \right) \lambda l + \frac{7}{10} H_{2,0} - \frac{4}{5} G_{2,0} - \frac{2}{15} F_{2,0} + \frac{4}{15} J_{2,0} \right) K^8 \\
& + \left(\left(\frac{2}{15} H_{2,0} + \frac{1}{15} A_{2,0} - \frac{2}{15} F_{2,0} + \frac{2}{5} G_{2,0} - \frac{1}{10} B_{2,0} \right) \lambda^2 + \left(-\frac{1}{3} A_{2,0} + \frac{7}{10} B_{2,0} \right. \right. \\
& + \left. \left. \frac{3}{5} F_{2,0} - 6 G_{2,0} + \frac{5}{3} H_{2,0} + \frac{3}{5} J_{2,0} \right) \lambda l - \frac{23}{10} G_{2,0} - \frac{2}{15} F_{2,0} + \frac{6}{5} H_{2,0} \right. \\
& + \left. \frac{4}{15} J_{2,0} \right) K^6 + \left(\left(\frac{2}{15} H_{2,0} - \frac{1}{10} A_{2,0} + \frac{1}{5} F_{2,0} \right) \lambda^2 + \left(\frac{1}{2} A_{2,0} - \frac{12}{5} F_{2,0} \right. \right. \\
& + \left. \left. \frac{5}{3} H_{2,0} + \frac{3}{5} J_{2,0} \right) \lambda l - \frac{13}{10} F_{2,0} + \frac{6}{5} H_{2,0} + \frac{4}{15} J_{2,0} \right) K^4 + \left(\frac{2}{15} \lambda^2 H_{2,0} \right. \\
& + \left. \left(\frac{5}{3} H_{2,0} - \frac{2}{5} J_{2,0} \right) \lambda l + \frac{1}{10} J_{2,0} + \frac{6}{5} H_{2,0} \right) K^2 - \frac{1}{5} H_{2,0} \left(\lambda^2 - \frac{7}{2} \right) \left) M_{c_{2,0}}(t) \right)
\end{aligned}$$

$$\left/ \left((K-1) \left((\lambda_2-1) (\lambda_1-1) K^{12} + 2 (\lambda_2-1) (\lambda_1-1) K^{10} + 3 (\lambda_2-1) (\lambda_1-1) K^8 + (12 \lambda_1 - 3 \lambda_2) K^6 - 3 (\lambda_2+1) (\lambda_1+1) K^4 - 2 (\lambda_2+1) (\lambda_1+1) K^2 - (\lambda_2+1) (\lambda_1+1) \right) (K+1) \right) \right.:$$

$$\begin{aligned} > F_{4,1} := \frac{1}{16} \left(40 \left(\left(\left(\lambda_1 - \frac{1}{4} \right) K^{10} - \frac{3}{4} K^8 \lambda_1 + \frac{1}{4} \lambda_1 + \frac{1}{4} \right) \lambda_2 + \left(-\lambda_1 + \frac{1}{4} \right) K^{10} \right. \right. \\ &+ \frac{3}{4} K^8 \lambda_1 + \frac{1}{4} \lambda_1 + \frac{1}{4} \left. \right) \lambda_2 \left(\frac{d}{dt} L_{c_{4,1}}(t) \right) - 10 \left(\left((\lambda_1-1) K^{10} + \lambda_1 + 1 \right) \lambda_2 + \left(-\lambda_1 + 1 \right) K^{10} \right. \\ &+ \left(-3 \lambda_1 - 3 \right) K^2 + 4 \lambda_1 + 4 \left. \right) \lambda_2 K^4 \left(\frac{d}{dt} M_{c_{4,1}}(t) \right) - 8 \left((A_{c_{2,0}} + B_{c_{2,0}} - 2 F_{c_{2,0}} - 4 G_{c_{2,0}} + 2 H_{c_{2,0}}) (K-1) \right. \\ &\left(\left(\lambda_1 - \frac{1}{4} \right) K^8 + \left(-\frac{1}{4} \lambda_1 - \frac{1}{4} \right) K^6 + \left(-\frac{1}{4} \lambda_1 - \frac{1}{4} \right) K^4 + \left(-\frac{1}{4} \lambda_1 - \frac{1}{4} \right) K^2 - \frac{1}{4} \lambda_1 - \frac{1}{4} \right) (K+1) \lambda_2^2 + \left(13 \left(F_{c_{2,0}} \right. \right. \\ &+ \frac{23}{13} G_{c_{2,0}} - \frac{7}{13} H_{c_{2,0}} - \frac{1}{13} J_{c_{2,0}} \left. \right) \left(\lambda_1 - \frac{1}{4} \right) K^{10} - \frac{35}{4} \lambda_1 \left(F_{c_{2,0}} + \frac{9}{7} G_{c_{2,0}} + \frac{3}{7} H_{c_{2,0}} + \frac{1}{7} J_{c_{2,0}} \right) K^8 \\ &+ \frac{13}{4} (\lambda_1 + 1) \left(F_{c_{2,0}} + \frac{23}{13} G_{c_{2,0}} - \frac{7}{13} H_{c_{2,0}} - \frac{1}{13} J_{c_{2,0}} \right) \left. \right) \lambda_2 + \left(\lambda_1 - \frac{1}{4} \right) \left(-24 F_{c_{2,0}} - 60 G_{c_{2,0}} + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - 4 J_{c_{2,0}} \right. \\ &- \frac{1}{2} - b c_{1,0}^2 + C c_{2,0} + 3 E c_{2,0} \left. \right) K^{10} - \frac{5}{4} \lambda_1 \left(-18 F_{c_{2,0}} - 46 G_{c_{2,0}} + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 + C c_{2,0} + 3 E c_{2,0} - 10 H_{c_{2,0}} - 6 J_{c_{2,0}} - \frac{1}{2} \right) K^8 \\ &+ \frac{1}{4} (\lambda_1 + 1) \left(6 F_{c_{2,0}} + 10 G_{c_{2,0}} + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 + C c_{2,0} + 3 E c_{2,0} - 50 H_{c_{2,0}} - 14 J_{c_{2,0}} - \frac{1}{2} \right) \left. \right) \lambda_2 L_{c_{2,0}}(t) + \left(\left((-2 B_{c_{2,0}} + 8 G_{c_{2,0}}) K^{16} + (-2 A_{c_{2,0}} + 4 F_{c_{2,0}}) K^{14} \right. \right. \\ &- 4 K^{10} H_{c_{2,0}} + (2 B_{c_{2,0}} - 8 G_{c_{2,0}}) K^6 + (2 A_{c_{2,0}} - 4 F_{c_{2,0}}) K^4 + 4 H_{c_{2,0}} \left. \right) \lambda_2^3 \\ &+ \left(\left((14 B_{c_{2,0}} + 20 G_{c_{2,0}}) \lambda_1 + 2 B_{c_{2,0}} - 54 G_{c_{2,0}} \right) K^{16} + \left((10 A_{c_{2,0}} + 12 F_{c_{2,0}}) \lambda_1 + 2 A_{c_{2,0}} - 30 F_{c_{2,0}} \right) K^{14} \right. \\ &+ \left(-28 \lambda_1 J_{c_{2,0}} + 2 J_{c_{2,0}} \right) K^{12} + \left(-100 \lambda_1 H_{c_{2,0}} + 18 H_{c_{2,0}} \right) K^{10} + \left(-10 B_{c_{2,0}} + 40 G_{c_{2,0}} \right) K^8 \\ &+ \left((-14 B_{c_{2,0}} + 120 G_{c_{2,0}}) \lambda_1 - 10 A_{c_{2,0}} + 8 B_{c_{2,0}} + 20 F_{c_{2,0}} + 14 G_{c_{2,0}} \right) K^6 + \left((-10 A_{c_{2,0}} + 48 F_{c_{2,0}}) \lambda_1 + 8 A_{c_{2,0}} + 10 F_{c_{2,0}} \right) K^4 \\ &+ \left(8 \lambda_1 J_{c_{2,0}} - 20 H_{c_{2,0}} - 2 J_{c_{2,0}} \right) K^2 + 2 H_{c_{2,0}} \left. \right) \lambda_2^2 + \left(\left((-14 B_{c_{2,0}} - 20 G_{c_{2,0}}) \lambda_1 + 46 G_{c_{2,0}} \right) K^{16} + \left((-10 A_{c_{2,0}} - 12 F_{c_{2,0}}) \lambda_1 + 26 F_{c_{2,0}} + S_2 \left(S_1 a c_{1,0}^2 - c c_{1,0}^2 \right) \right) K^{14} \right. \\ &+ \left(28 \lambda_1 J_{c_{2,0}} - 2 J_{c_{2,0}} \right) K^{12} + \left(-2 S_2 e c_{1,0}^2 + 100 \lambda_1 H_{c_{2,0}} - 14 H_{c_{2,0}} \right) K^{10} + \left((70 B_{c_{2,0}} - 460 G_{c_{2,0}}) \lambda_1 - 90 G_{c_{2,0}} \right) K^8 \\ &+ \left((50 A_{c_{2,0}} - 56 B_{c_{2,0}} - 180 F_{c_{2,0}} + 480 G_{c_{2,0}}) \lambda_1 - 70 F_{c_{2,0}} + 184 G_{c_{2,0}} \right) K^6 + \left((-40 A_{c_{2,0}} + 192 F_{c_{2,0}} \right. \end{aligned}$$

$$\begin{aligned}
& -60 J_{c_{2,0}}) \lambda I + 104 F_{c_{2,0}} + (-SI ac_{1,0}^2 + cc_{1,0}^2) S2 - 10 J_{c_{2,0}}) K^4 + ((-100 H_{c_{2,0}} \\
& + 32 J_{c_{2,0}}) \lambda I - 30 H_{c_{2,0}} - 8 J_{c_{2,0}}) K^2 + 2 S2 ec_{1,0}^2 - 56 H_{c_{2,0}}) \lambda 2 - (K^6 + 2 K^4 + 3 K^2 \\
& + 4) (K-1)^2 S2 ((SI ac_{1,0}^2 - cc_{1,0}^2) K^4 - 2 ec_{1,0}^2) (K+1)^2) M_{c_{2,0}}(t) \\
& - 20 \lambda 2 \left(\left(\frac{4}{5} (K-1) \left(\left(\lambda I - \frac{1}{4} \right) K^8 + \left(-\frac{1}{4} \lambda I - \frac{1}{4} \right) K^6 + \left(-\frac{1}{4} \lambda I - \frac{1}{4} \right) K^4 + \left(-\frac{1}{4} \lambda I - \frac{1}{4} \right) K^2 - \frac{1}{4} \lambda I - \frac{1}{4} \right) \right. \right. \\
& \left. \left(F_{2,0} + 2 G_{2,0} - H_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) (K \right. \\
& \left. + 1) \lambda 2^2 + \left(-\frac{26}{5} \left(F_{2,0} + \frac{23}{13} G_{2,0} - \frac{7}{13} H_{2,0} - \frac{1}{13} J_{2,0} \right) \left(\lambda I - \frac{1}{4} \right) K^{10} \right. \right. \\
& \left. \left. + \frac{7}{2} \left(\frac{9}{7} G_{2,0} + \frac{3}{7} H_{2,0} + \frac{1}{7} J_{2,0} + F_{2,0} \right) \lambda I K^8 - \frac{13}{10} (\lambda I + 1) \left(F_{2,0} + \frac{23}{13} G_{2,0} \right. \right. \right. \\
& \left. \left. - \frac{7}{13} H_{2,0} - \frac{1}{13} J_{2,0} \right) \right) \lambda 2 - \frac{6}{5} \left(E_{2,0} - 8 F_{2,0} - 20 G_{2,0} - \frac{4}{3} J_{2,0} + \frac{1}{3} C_{2,0} \right) \left(\lambda I \right. \\
& \left. - \frac{1}{4} \right) K^{10} + \frac{3}{2} \left(-6 F_{2,0} - \frac{46}{3} G_{2,0} - \frac{10}{3} H_{2,0} - 2 J_{2,0} + E_{2,0} + \frac{1}{3} C_{2,0} \right) \lambda I K^8 \\
& - \frac{3}{10} \left(E_{2,0} + 2 F_{2,0} + \frac{10}{3} G_{2,0} - \frac{50}{3} H_{2,0} - \frac{14}{3} J_{2,0} + \frac{1}{3} C_{2,0} \right) (\lambda I + 1) \Big) L_{2,0}(t) \\
& + M_{2,0}(t) \left(\frac{2}{5} (K^4 - K^3 + K^2 - K + 1) (K-1) (K+1) (K^4 + K^3 + K^2 + K \right. \\
& \left. + 1) \left(\left(G_{2,0} - \frac{1}{4} B_{2,0} \right) K^6 + \left(\frac{1}{2} F_{2,0} - \frac{1}{4} A_{2,0} \right) K^4 - \frac{1}{2} H_{2,0} \right) \lambda 2^2 + \left(\left(\left(\frac{7}{10} B_{2,0} \right. \right. \right. \right. \\
& \left. \left. + G_{2,0} \right) \lambda I - \frac{27}{10} G_{2,0} + \frac{1}{10} B_{2,0} \right) K^{16} + \left(\left(\frac{1}{2} A_{2,0} + \frac{3}{5} F_{2,0} \right) \lambda I - \frac{3}{2} F_{2,0} \right. \right. \\
& \left. \left. + \frac{1}{10} A_{2,0} \right) K^{14} - \frac{7}{5} \left(\lambda I - \frac{1}{14} \right) J_{2,0} K^{12} - 5 H_{2,0} \left(\lambda I - \frac{9}{50} \right) K^{10} + \left(-\frac{1}{2} B_{2,0} \right. \right. \\
& \left. \left. + 2 G_{2,0} \right) K^8 + \left(\left(-\frac{7}{10} B_{2,0} + 6 G_{2,0} \right) \lambda I - \frac{1}{2} A_{2,0} + \frac{7}{10} G_{2,0} + F_{2,0} + \frac{2}{5} B_{2,0} \right) K^6 \right. \\
& \left. + \left(\left(-\frac{1}{2} A_{2,0} + \frac{12}{5} F_{2,0} \right) \lambda I + \frac{1}{2} F_{2,0} + \frac{2}{5} A_{2,0} \right) K^4 + \left(-\frac{1}{10} J_{2,0} - H_{2,0} \right. \right. \\
& \left. \left. + \frac{2}{5} J_{2,0} \lambda I \right) K^2 + \frac{1}{10} H_{2,0} \right) \lambda 2 + \left(\left(-\frac{7}{10} B_{2,0} - G_{2,0} \right) \lambda I + \frac{23}{10} G_{2,0} \right) K^{16} + \left(\left(\right. \right. \\
& \left. \left. -\frac{1}{2} A_{2,0} - \frac{3}{5} F_{2,0} \right) \lambda I + \frac{13}{10} F_{2,0} \right) K^{14} + \frac{7}{5} \left(\lambda I - \frac{1}{14} \right) J_{2,0} K^{12} + 5 H_{2,0} \left(\lambda I \right. \\
& \left. - \frac{7}{50} \right) K^{10} + \left(\left(\frac{7}{2} B_{2,0} - 23 G_{2,0} \right) \lambda I - \frac{9}{2} G_{2,0} \right) K^8 + \left(\left(\frac{5}{2} A_{2,0} - \frac{14}{5} B_{2,0} - 9 F_{2,0} \right. \right. \\
& \left. \left. + 24 G_{2,0} \right) \lambda I + \frac{46}{5} G_{2,0} - \frac{7}{2} F_{2,0} \right) K^6 + \left(\left(-2 A_{2,0} + \frac{48}{5} F_{2,0} - 3 J_{2,0} \right) \lambda I \right. \\
& \left. + \frac{26}{5} F_{2,0} - \frac{1}{2} J_{2,0} \right) K^4 + \left(\left(-5 H_{2,0} + \frac{8}{5} J_{2,0} \right) \lambda I - \frac{2}{5} J_{2,0} - \frac{3}{2} H_{2,0} \right) K^2 \\
& \left. - \frac{14}{5} H_{2,0} \right) \Big) \Big/ (\lambda 2 (K-1)^2 ((\lambda I - 1) K^{12} + (2 \lambda I - 2) K^{10} + (3 \lambda I - 3) K^8 \\
& - 3 K^6 + (-3 \lambda I - 3) K^4 + (-2 \lambda I - 2) K^2 - \lambda I - 1) \lambda 2 - (K-1) ((\lambda I - 1) K^{10} \\
& + (3 \lambda I - 3) K^8 + (6 \lambda I - 6) K^6 + (-6 \lambda I - 6) K^4 + (-3 \lambda I - 3) K^2 - \lambda I - 1) (K \\
& + 1)) (K+1)^2) :
\end{aligned}$$

$$\begin{aligned}
> F_{c_{4,1}} := & \frac{1}{16} \left(-40 \left(\left(\left(\lambda I - \frac{1}{4} \right) K^{10} - \frac{3}{4} K^8 \lambda I + \frac{1}{4} \lambda I + \frac{1}{4} \right) \lambda I + \left(-\lambda I + \frac{1}{4} \right) K^{10} \right. \right. \\
& + \frac{3}{4} K^8 \lambda I + \frac{1}{4} \lambda I + \frac{1}{4} \left. \right) \lambda I \left(\frac{d}{dt} L_{4,1}(t) \right) + 10 \left(\left((\lambda I - 1) K^{10} + \lambda I + 1 \right) \lambda I + (-\lambda I \right. \\
& + 1) K^{10} + (-3 \lambda I - 3) K^2 + 4 \lambda I + 4 \left. \right) \lambda I K^4 \left(\frac{d}{dt} M_{4,1}(t) \right) + 8 \left((Ac_{2,0} + Bc_{2,0} \right. \\
& - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) (K - 1) \left(\left(\lambda I - \frac{1}{4} \right) K^8 + \left(-\frac{1}{4} \lambda I - \frac{1}{4} \right) K^6 + \left(\right. \right. \\
& - \frac{1}{4} \lambda I - \frac{1}{4} \left. \right) K^4 + \left(-\frac{1}{4} \lambda I - \frac{1}{4} \right) K^2 - \frac{1}{4} \lambda I - \frac{1}{4} \left. \right) (K + 1) \lambda I^2 + \left(13 \left(Fc_{2,0} \right. \right. \\
& + \frac{23}{13} Gc_{2,0} - \frac{7}{13} Hc_{2,0} - \frac{1}{13} Jc_{2,0} \left. \right) \left(\lambda I - \frac{1}{4} \right) K^{10} - \frac{35}{4} \lambda I \left(Fc_{2,0} + \frac{9}{7} Gc_{2,0} \right. \\
& + \frac{3}{7} Hc_{2,0} + \frac{1}{7} Jc_{2,0} \left. \right) K^8 + \frac{13}{4} (\lambda I + 1) \left(Fc_{2,0} + \frac{23}{13} Gc_{2,0} - \frac{7}{13} Hc_{2,0} \right. \\
& - \frac{1}{13} Jc_{2,0} \left. \right) \left. \right) \lambda I + \left(\lambda I - \frac{1}{4} \right) \left(-24 Fc_{2,0} - 60 Gc_{2,0} + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - 4 Jc_{2,0} \right. \\
& - \frac{1}{2} - bc_{1,0}^2 + Cc_{2,0} + 3 Ec_{2,0} \left. \right) K^{10} - \frac{5}{4} \lambda I \left(-18 Fc_{2,0} - 46 Gc_{2,0} + \left(\frac{1}{2} cc_{1,0}^2 + \right. \right. \\
& ec_{1,0}^2 \left. \right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3 Ec_{2,0} - 10 Hc_{2,0} - 6 Jc_{2,0} - \frac{1}{2} \left. \right) K^8 + \frac{1}{4} (\lambda I \\
& + 1) \left(6 Fc_{2,0} + 10 Gc_{2,0} + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3 Ec_{2,0} - 50 Hc_{2,0} \right. \\
& - 14 Jc_{2,0} - \frac{1}{2} \left. \right) \left. \right) \lambda I L_{2,0}(t) + \left(\left((2 Bc_{2,0} - 8 Gc_{2,0}) K^{16} + (2 Ac_{2,0} - 4 Fc_{2,0}) K^{14} \right. \right. \\
& + 4 K^{10} Hc_{2,0} + (-2 Bc_{2,0} + 8 Gc_{2,0}) K^6 + (-2 Ac_{2,0} + 4 Fc_{2,0}) K^4 - 4 Hc_{2,0} \left. \right) \lambda I^3 \\
& + \left(\left((-14 Bc_{2,0} - 20 Gc_{2,0}) \lambda I - 2 Bc_{2,0} + 54 Gc_{2,0} \right) K^{16} + \left((-10 Ac_{2,0} - 12 Fc_{2,0}) \lambda I \right. \right. \\
& - 2 Ac_{2,0} + 30 Fc_{2,0} \left. \right) K^{14} + (28 \lambda I Jc_{2,0} - 2 Jc_{2,0}) K^{12} + (100 \lambda I Hc_{2,0} - 18 Hc_{2,0}) K^{10} \\
& + (10 Bc_{2,0} - 40 Gc_{2,0}) K^8 + \left((14 Bc_{2,0} - 120 Gc_{2,0}) \lambda I + 10 Ac_{2,0} - 8 Bc_{2,0} \right. \\
& - 20 Fc_{2,0} - 14 Gc_{2,0} \left. \right) K^6 + \left((10 Ac_{2,0} - 48 Fc_{2,0}) \lambda I - 8 Ac_{2,0} - 10 Fc_{2,0} \right) K^4 + \left(\right. \\
& - 8 \lambda I Jc_{2,0} + 20 Hc_{2,0} + 2 Jc_{2,0} \left. \right) K^2 - 2 Hc_{2,0} \left. \right) \lambda I^2 + \left(\left((14 Bc_{2,0} + 20 Gc_{2,0}) \lambda I \right. \right. \\
& - 46 Gc_{2,0} \left. \right) K^{16} + \left((10 Ac_{2,0} + 12 Fc_{2,0}) \lambda I - 26 Fc_{2,0} + \left(-S1 ac_{1,0}^2 + cc_{1,0}^2 \right) S2 \right) K^{14} \\
& + \left(-28 \lambda I Jc_{2,0} + 2 Jc_{2,0} \right) K^{12} + \left(2 S2 ec_{1,0}^2 - 100 \lambda I Hc_{2,0} + 14 Hc_{2,0} \right) K^{10} + \left(\left(\right. \right. \\
& - 70 Bc_{2,0} + 460 Gc_{2,0} \left. \right) \lambda I + 90 Gc_{2,0} \left. \right) K^8 + \left((-50 Ac_{2,0} + 56 Bc_{2,0} + 180 Fc_{2,0} \right. \\
& - 480 Gc_{2,0}) \lambda I + 70 Fc_{2,0} - 184 Gc_{2,0} \left. \right) K^6 + \left((40 Ac_{2,0} - 192 Fc_{2,0} + 60 Jc_{2,0}) \lambda I \right. \\
& - 104 Fc_{2,0} + S2 \left(S1 ac_{1,0}^2 - cc_{1,0}^2 \right) + 10 Jc_{2,0} \left. \right) K^4 + \left((100 Hc_{2,0} - 32 Jc_{2,0}) \lambda I \right. \\
& + 30 Hc_{2,0} + 8 Jc_{2,0} \left. \right) K^2 - 2 S2 ec_{1,0}^2 + 56 Hc_{2,0} \left. \right) \lambda I + (K^6 + 2 K^4 + 3 K^2 + 4) (K
\end{aligned}$$

$$\begin{aligned}
& -1)^2 S2 \left((SI ac_{1,0}^2 - cc_{1,0}^2) K^4 - 2 ec_{1,0}^2 \right) (K+1)^2 M_{2,0}(t) - 20 \lambda 2 \left(\left(\frac{4}{5} (K \right. \right. \\
& -1) \left(\left(\lambda l - \frac{1}{4} \right) K^8 + \left(-\frac{1}{4} \lambda l - \frac{1}{4} \right) K^6 + \left(-\frac{1}{4} \lambda l - \frac{1}{4} \right) K^4 + \left(-\frac{1}{4} \lambda l - \frac{1}{4} \right) K^2 \right. \\
& - \frac{1}{4} \lambda l - \frac{1}{4} \right) \left(F_{2,0} + 2 G_{2,0} - H_{2,0} - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) (K+1) \lambda 2^2 + \left(-\frac{26}{5} \left(F_{2,0} \right. \right. \\
& + \frac{23}{13} G_{2,0} - \frac{7}{13} H_{2,0} - \frac{1}{13} J_{2,0} \right) \left(\lambda l - \frac{1}{4} \right) K^{10} + \frac{7}{2} \left(\frac{9}{7} G_{2,0} + \frac{3}{7} H_{2,0} + \frac{1}{7} J_{2,0} \right. \\
& + F_{2,0} \left. \right) \lambda l K^8 - \frac{13}{10} (\lambda l + 1) \left(F_{2,0} + \frac{23}{13} G_{2,0} - \frac{7}{13} H_{2,0} - \frac{1}{13} J_{2,0} \right) \lambda 2 \\
& - \frac{6}{5} \left(E_{2,0} - 8 F_{2,0} - 20 G_{2,0} - \frac{4}{3} J_{2,0} + \frac{1}{3} C_{2,0} \right) \left(\lambda l - \frac{1}{4} \right) K^{10} + \frac{3}{2} \left(-6 F_{2,0} \right. \\
& - \frac{46}{3} G_{2,0} - \frac{10}{3} H_{2,0} - 2 J_{2,0} + E_{2,0} + \frac{1}{3} C_{2,0} \left. \right) \lambda l K^8 - \frac{3}{10} \left(E_{2,0} + 2 F_{2,0} \right. \\
& + \frac{10}{3} G_{2,0} - \frac{50}{3} H_{2,0} - \frac{14}{3} J_{2,0} + \frac{1}{3} C_{2,0} \left. \right) (\lambda l + 1) Lc_{2,0}(t) + \left(\frac{2}{5} (K^4 - K^3 + K^2 \right. \\
& - K + 1) (K-1) (K+1) (K^4 + K^3 + K^2 + K + 1) \left(\left(G_{2,0} - \frac{1}{4} B_{2,0} \right) K^6 + \left(\frac{1}{2} F_{2,0} \right. \right. \\
& - \frac{1}{4} A_{2,0} \left. \right) K^4 - \frac{1}{2} H_{2,0} \left. \right) \lambda 2^2 + \left(\left(\left(\frac{7}{10} B_{2,0} + G_{2,0} \right) \lambda l - \frac{27}{10} G_{2,0} + \frac{1}{10} B_{2,0} \right) K^{16} \right. \\
& + \left(\left(\frac{1}{2} A_{2,0} + \frac{3}{5} F_{2,0} \right) \lambda l - \frac{3}{2} F_{2,0} + \frac{1}{10} A_{2,0} \right) K^{14} - \frac{7}{5} \left(\lambda l - \frac{1}{14} \right) J_{2,0} K^{12} \\
& - 5 H_{2,0} \left(\lambda l - \frac{9}{50} \right) K^{10} + \left(-\frac{1}{2} B_{2,0} + 2 G_{2,0} \right) K^8 + \left(\left(-\frac{7}{10} B_{2,0} + 6 G_{2,0} \right) \lambda l \right. \\
& - \frac{1}{2} A_{2,0} + \frac{7}{10} G_{2,0} + F_{2,0} + \frac{2}{5} B_{2,0} \left. \right) K^6 + \left(\left(-\frac{1}{2} A_{2,0} + \frac{12}{5} F_{2,0} \right) \lambda l + \frac{1}{2} F_{2,0} \right. \\
& + \frac{2}{5} A_{2,0} \left. \right) K^4 + \left(-\frac{1}{10} J_{2,0} - H_{2,0} + \frac{2}{5} J_{2,0} \lambda l \right) K^2 + \frac{1}{10} H_{2,0} \left. \right) \lambda 2 + \left(\left(-\frac{7}{10} B_{2,0} \right. \right. \\
& - G_{2,0} \left. \right) \lambda l + \frac{23}{10} G_{2,0} \left. \right) K^{16} + \left(\left(-\frac{1}{2} A_{2,0} - \frac{3}{5} F_{2,0} \right) \lambda l + \frac{13}{10} F_{2,0} \right) K^{14} + \frac{7}{5} \left(\lambda l \right. \\
& - \frac{1}{14} \left. \right) J_{2,0} K^{12} + 5 H_{2,0} \left(\lambda l - \frac{7}{50} \right) K^{10} + \left(\left(\frac{7}{2} B_{2,0} - 23 G_{2,0} \right) \lambda l - \frac{9}{2} G_{2,0} \right) K^8 \\
& + \left(\left(\frac{5}{2} A_{2,0} - \frac{14}{5} B_{2,0} - 9 F_{2,0} + 24 G_{2,0} \right) \lambda l + \frac{46}{5} G_{2,0} - \frac{7}{2} F_{2,0} \right) K^6 + \left(\left(-2 A_{2,0} \right. \right. \\
& + \frac{48}{5} F_{2,0} - 3 J_{2,0} \left. \right) \lambda l + \frac{26}{5} F_{2,0} - \frac{1}{2} J_{2,0} \left. \right) K^4 + \left(\left(-5 H_{2,0} + \frac{8}{5} J_{2,0} \right) \lambda l - \frac{2}{5} J_{2,0} \right. \\
& - \frac{3}{2} H_{2,0} \left. \right) K^2 - \frac{14}{5} H_{2,0} \left. \right) Mc_{2,0}(t) \left. \right) \Big/ (\lambda 2 (K-1)^2 ((\lambda l - 1) K^{12} + (2 \lambda l \\
& - 2) K^{10} + (3 \lambda l - 3) K^8 - 3 K^6 + (-3 \lambda l - 3) K^4 + (-2 \lambda l - 2) K^2 - \lambda l - 1) \lambda 2 \\
& - (K-1) ((\lambda l - 1) K^{10} + (3 \lambda l - 3) K^8 + (6 \lambda l - 6) K^6 + (-6 \lambda l - 6) K^4 + (-3 \lambda l \\
& - 3) K^2 - \lambda l - 1) (K+1)) (K+1)^2) :
\end{aligned}$$

$$\begin{aligned}
> G_{4,1} := & \frac{1}{16} \left(-30 \lambda 2 \left(\left(K^8 \lambda l + \left(-\frac{4}{5} \lambda l - \frac{1}{5} \right) K^6 + \frac{1}{5} \lambda l + \frac{1}{5} \right) \lambda 2 - K^8 \lambda l + \left(\frac{4}{5} \lambda l \right. \right. \right. \\
& + \frac{1}{5} \left. \right) K^6 + \frac{1}{5} \lambda l + \frac{1}{5} \left. \right) \left(\frac{d}{dt} Lc_{4,1}(t) \right) + 6 \left(((\lambda l - 1) K^6 + \lambda l + 1) K^2 \lambda 2 + (-\lambda l \right. \\
& + 1) K^8 + (-4 \lambda l - 4) K^2 + 5 \lambda l + 5 \left. \right) \lambda 2 K^4 \left(\frac{d}{dt} Mc_{4,1}(t) \right) + 6 \left((Ac_{2,0} + Bc_{2,0} \right.
\end{aligned}$$

$$\begin{aligned}
& -2 F_{c_{2,0}} - 4 G_{c_{2,0}} + 2 H_{c_{2,0}}) (K-1) \left(K^6 \lambda l + \left(-\frac{1}{3} \lambda l - \frac{1}{3} \right) K^4 + \left(-\frac{1}{3} \lambda l \right. \right. \\
& \left. \left. - \frac{1}{3} \right) K^2 - \frac{1}{3} \lambda l - \frac{1}{3} \right) (K+1) \lambda^2 + \left(13 \left(F_{c_{2,0}} + \frac{23}{13} G_{c_{2,0}} - \frac{7}{13} H_{c_{2,0}} \right. \right. \\
& \left. \left. - \frac{1}{13} J_{c_{2,0}} \right) \lambda l K^8 - \frac{28}{3} \left(\lambda l + \frac{1}{4} \right) \left(F_{c_{2,0}} + \frac{9}{7} G_{c_{2,0}} + \frac{3}{7} H_{c_{2,0}} + \frac{1}{7} J_{c_{2,0}} \right) K^6 \right. \\
& \left. + \frac{7}{3} (\lambda l + 1) \left(F_{c_{2,0}} + \frac{9}{7} G_{c_{2,0}} + \frac{3}{7} H_{c_{2,0}} + \frac{1}{7} J_{c_{2,0}} \right) \right) \lambda^2 + \left(-24 F_{c_{2,0}} - 60 G_{c_{2,0}} \right. \\
& \left. + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S2 - 4 J_{c_{2,0}} - \frac{1}{2} - b c_{1,0}^2 + C c_{2,0} + 3 E c_{2,0} \right) \lambda l K^8 - \frac{4}{3} \left(\right. \\
& \left. -18 F_{c_{2,0}} - 46 G_{c_{2,0}} + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S2 - b c_{1,0}^2 + C c_{2,0} + 3 E c_{2,0} - 10 H_{c_{2,0}} \right. \\
& \left. - 6 J_{c_{2,0}} - \frac{1}{2} \right) \left(\lambda l + \frac{1}{4} \right) K^6 + \frac{1}{3} (\lambda l + 1) \left(-4 G_{c_{2,0}} - 40 H_{c_{2,0}} + \left(\frac{1}{2} c c_{1,0}^2 + \right. \right. \\
& \left. \left. e c_{1,0}^2 \right) S2 - b c_{1,0}^2 + C c_{2,0} + 3 E c_{2,0} - 12 J_{c_{2,0}} - \frac{1}{2} \right) \lambda^2 L_{c_{2,0}}(t) + \left(2 (K^2 - K \right. \\
& \left. + 1) (B c_{2,0} - 4 G_{c_{2,0}}) K^6 + (A c_{2,0} - 2 F_{c_{2,0}}) K^4 + 2 H_{c_{2,0}}) (K-1) K^2 (K^2 + K \right. \\
& \left. + 1) (K+1) \lambda^2^3 + \left((-14 B c_{2,0} + 8 G_{c_{2,0}}) \lambda l - 2 B c_{2,0} + 26 G_{c_{2,0}} \right) K^{14} + \left(\right. \\
& \left. -10 \lambda l A c_{2,0} - 2 A c_{2,0} + 18 F_{c_{2,0}} \right) K^{12} + \left(24 \lambda l J_{c_{2,0}} + 2 J_{c_{2,0}} \right) K^{10} + \left((14 B c_{2,0} \right. \\
& \left. - 92 G_{c_{2,0}} + 80 H_{c_{2,0}}) \lambda l + 8 B c_{2,0} - 50 G_{c_{2,0}} + 2 H_{c_{2,0}} \right) K^8 + \left((10 A c_{2,0} \right. \\
& \left. - 36 F_{c_{2,0}}) \lambda l + 8 A c_{2,0} - 6 B c_{2,0} - 30 F_{c_{2,0}} + 24 G_{c_{2,0}} \right) K^6 + \left(-12 \lambda l J_{c_{2,0}} - 6 A c_{2,0} \right. \\
& \left. + 12 F_{c_{2,0}} - 2 J_{c_{2,0}} \right) K^4 + \left(-20 \lambda l H_{c_{2,0}} + 10 H_{c_{2,0}} \right) K^2 - 12 H_{c_{2,0}} \lambda^2 + \left((-14 B c_{2,0} \right. \\
& \left. - 8 G_{c_{2,0}}) \lambda l - 18 G_{c_{2,0}} \right) K^{14} + \left(10 \lambda l A c_{2,0} + (-S1 a c_{1,0}^2 + c c_{1,0}^2) S2 - 14 F_{c_{2,0}} \right) K^{12} \\
& + \left(-24 \lambda l J_{c_{2,0}} - 2 J_{c_{2,0}} \right) K^{10} + \left((-56 B c_{2,0} + 368 G_{c_{2,0}} - 80 H_{c_{2,0}}) \lambda l + 2 S2 e c_{1,0}^2 \right. \\
& \left. + 72 G_{c_{2,0}} - 6 H_{c_{2,0}} \right) K^8 + \left((-40 A c_{2,0} + 42 B c_{2,0} + 144 F_{c_{2,0}} - 360 G_{c_{2,0}}) \lambda l \right. \\
& \left. - 138 G_{c_{2,0}} + S2 (S1 a c_{1,0}^2 - c c_{1,0}^2) + 56 F_{c_{2,0}} \right) K^6 + \left((30 A c_{2,0} - 144 F_{c_{2,0}} \right. \\
& \left. + 48 J_{c_{2,0}}) \lambda l - 78 F_{c_{2,0}} + 8 J_{c_{2,0}} \right) K^4 + \left((80 H_{c_{2,0}} - 24 J_{c_{2,0}}) \lambda l - 2 S2 e c_{1,0}^2 \right. \\
& \left. + 24 H_{c_{2,0}} + 6 J_{c_{2,0}} \right) K^2 + 42 H_{c_{2,0}} \lambda^2 + (K-1)^2 S2 (K^4 + 2 K^2 + 3) \left((S1 a c_{1,0}^2 - \right. \\
& \left. c c_{1,0}^2) K^4 - 2 e c_{1,0}^2 \right) (K+1)^2) M_{c_{2,0}}(t) - 8 \lambda^2 \left(\left(-\frac{3}{2} (K-1) \left(F_{2,0} + 2 G_{2,0} - H_{2,0} \right. \right. \right. \\
& \left. \left. - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) \left(K^6 \lambda l + \left(-\frac{1}{3} \lambda l - \frac{1}{3} \right) K^4 + \left(-\frac{1}{3} \lambda l - \frac{1}{3} \right) K^2 - \frac{1}{3} \lambda l \right. \right. \\
& \left. \left. - \frac{1}{3} \right) (K+1) \lambda^2 + \left(\frac{39}{4} \left(F_{2,0} + \frac{23}{13} G_{2,0} - \frac{7}{13} H_{2,0} - \frac{1}{13} J_{2,0} \right) \lambda l K^8 \right. \right. \\
& \left. \left. - 7 \left(\frac{9}{7} G_{2,0} + \frac{3}{7} H_{2,0} + \frac{1}{7} J_{2,0} + F_{2,0} \right) \left(\lambda l + \frac{1}{4} \right) K^6 + \frac{7}{4} (\lambda l + 1) \left(\frac{9}{7} G_{2,0} \right. \right. \right.
\end{aligned}$$

$$\begin{aligned}
& + \frac{3}{7} H_{2,0} + \frac{1}{7} J_{2,0} + F_{2,0} \Big) \Big) \lambda^2 + \frac{9}{4} \left(E_{2,0} - 8 F_{2,0} - 20 G_{2,0} - \frac{4}{3} J_{2,0} \right. \\
& + \left. \frac{1}{3} C_{2,0} \right) \lambda K^8 - 3 \left(\lambda + \frac{1}{4} \right) \left(-6 F_{2,0} - \frac{46}{3} G_{2,0} - \frac{10}{3} H_{2,0} - 2 J_{2,0} + E_{2,0} \right. \\
& + \left. \frac{1}{3} C_{2,0} \right) K^6 + \frac{3}{4} (\lambda + 1) \left(E_{2,0} - \frac{4}{3} G_{2,0} - \frac{40}{3} H_{2,0} - 4 J_{2,0} + \frac{1}{3} C_{2,0} \right) \Big) L_{2,0}(t) \\
& + \left(- \left(\left(G_{2,0} - \frac{1}{4} B_{2,0} \right) K^6 + \left(\frac{1}{2} F_{2,0} - \frac{1}{4} A_{2,0} \right) K^4 - \frac{1}{2} H_{2,0} \right) (K^2 - K + 1) (K \right. \right. \\
& - 1) K^2 (K^2 + K + 1) (K + 1) \lambda^2 + \left(\left(\left(-\frac{7}{4} B_{2,0} + G_{2,0} \right) \lambda + \frac{13}{4} G_{2,0} \right. \right. \\
& - \left. \frac{1}{4} B_{2,0} \right) K^{14} + \left(-\frac{5}{4} \lambda A_{2,0} - \frac{1}{4} A_{2,0} + \frac{9}{4} F_{2,0} \right) K^{12} + 3 \left(\lambda + \frac{1}{12} \right) J_{2,0} K^{10} \\
& + \left(\left(\frac{7}{4} B_{2,0} - \frac{23}{2} G_{2,0} + 10 H_{2,0} \right) \lambda + \frac{1}{4} H_{2,0} + B_{2,0} - \frac{25}{4} G_{2,0} \right) K^8 + \left(\left(\frac{5}{4} A_{2,0} \right. \right. \\
& - \left. \frac{9}{2} F_{2,0} \right) \lambda + A_{2,0} + 3 G_{2,0} - \frac{15}{4} F_{2,0} - \frac{3}{4} B_{2,0} \Big) K^6 + \left(\frac{3}{2} F_{2,0} - \frac{1}{4} J_{2,0} \right. \\
& - \left. \frac{3}{2} J_{2,0} \lambda - \frac{3}{4} A_{2,0} \right) K^4 - \frac{5}{2} H_{2,0} \left(\lambda - \frac{1}{2} \right) K^2 - \frac{3}{2} H_{2,0} \Big) \lambda^2 + \left(\left(\frac{7}{4} B_{2,0} \right. \right. \\
& - \left. G_{2,0} \right) \lambda - \frac{9}{4} G_{2,0} \Big) K^{14} + \left(\frac{5}{4} \lambda A_{2,0} - \frac{7}{4} F_{2,0} \right) K^{12} - 3 \left(\lambda + \frac{1}{12} \right) J_{2,0} K^{10} \\
& + \left((-7 B_{2,0} + 46 G_{2,0} - 10 H_{2,0}) \lambda - \frac{3}{4} H_{2,0} + 9 G_{2,0} \right) K^8 + \left((-5 A_{2,0} + \frac{21}{4} B_{2,0} \right. \\
& + 18 F_{2,0} - 45 G_{2,0}) \lambda - \frac{69}{4} G_{2,0} + 7 F_{2,0} \Big) K^6 + \left(\left(\frac{15}{4} A_{2,0} - 18 F_{2,0} + 6 J_{2,0} \right) \lambda \right. \\
& - \left. \frac{39}{4} F_{2,0} + J_{2,0} \right) K^4 + \left((10 H_{2,0} - 3 J_{2,0}) \lambda + \frac{3}{4} J_{2,0} + 3 H_{2,0} \right) K^2 + \frac{21}{4} H_{2,0} \Big) \\
& M_{2,0}(t) \Big) \Big) / \left(\lambda^2 (K - 1)^2 \left(((\lambda - 1) K^{12} + (2\lambda - 2) K^{10} + (3\lambda - 3) K^8 - 3 K^6 \right. \right. \right. \\
& + (-3\lambda - 3) K^4 + (-2\lambda - 2) K^2 - \lambda - 1) \lambda^2 - (K - 1) \left((\lambda - 1) K^{10} + (3\lambda \right. \\
& - 3) K^8 + (6\lambda - 6) K^6 + (-6\lambda - 6) K^4 + (-3\lambda - 3) K^2 - \lambda - 1) (K + 1) \Big) \\
& (K + 1)^2 \Big) :
\end{aligned}$$

$$\begin{aligned}
> G_{c_{4,1}} := & \frac{1}{16} \left(30 \lambda^2 \left(\left(K^8 \lambda + \left(-\frac{4}{5} \lambda - \frac{1}{5} \right) K^6 + \frac{1}{5} \lambda + \frac{1}{5} \right) \lambda^2 - K^8 \lambda + \left(\frac{4}{5} \lambda \right. \right. \right. \\
& + \left. \frac{1}{5} \right) K^6 + \frac{1}{5} \lambda + \frac{1}{5} \Big) \left(\frac{d}{dt} L_{4,1}(t) \right) - 6 \left(((\lambda - 1) K^6 + \lambda + 1) K^2 \lambda^2 + (-\lambda \right. \\
& + 1) K^8 + (-4\lambda - 4) K^2 + 5\lambda + 5 \Big) \lambda^2 K^4 \left(\frac{d}{dt} M_{4,1}(t) \right) - 6 \left((Ac_{2,0} + Bc_{2,0} \right. \\
& - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) (K - 1) \left(K^6 \lambda + \left(-\frac{1}{3} \lambda - \frac{1}{3} \right) K^4 + \left(-\frac{1}{3} \lambda \right. \right. \\
& - \left. \frac{1}{3} \right) K^2 - \frac{1}{3} \lambda - \frac{1}{3} \Big) (K + 1) \lambda^2 + \left(13 \left(Fc_{2,0} + \frac{23}{13} Gc_{2,0} - \frac{7}{13} Hc_{2,0} \right. \right. \\
& - \left. \frac{1}{13} Jc_{2,0} \right) \lambda K^8 - \frac{28}{3} \left(\lambda + \frac{1}{4} \right) \left(Fc_{2,0} + \frac{9}{7} Gc_{2,0} + \frac{3}{7} Hc_{2,0} + \frac{1}{7} Jc_{2,0} \right) K^6 \\
& + \frac{7}{3} (\lambda + 1) \left(Fc_{2,0} + \frac{9}{7} Gc_{2,0} + \frac{3}{7} Hc_{2,0} + \frac{1}{7} Jc_{2,0} \right) \Big) \lambda^2 + \left(-24 Fc_{2,0} - 60 Gc_{2,0} \right. \\
& + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - 4 Jc_{2,0} - \frac{1}{2} - bc_{1,0}^2 + Cc_{2,0} + 3 Ec_{2,0} \Big) \lambda K^8 - \frac{4}{3} \left(\right.
\end{aligned}$$

$$\begin{aligned}
& -18 F_{c_{2,0}} - 46 G_{c_{2,0}} + \left(\frac{1}{2} c c_{1,0}^2 + e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 + C c_{2,0} + 3 E c_{2,0} - 10 H c_{2,0} \\
& - 6 J c_{2,0} - \frac{1}{2} \left(\lambda I + \frac{1}{4} \right) K^6 + \frac{1}{3} (\lambda I + 1) \left(-4 G_{c_{2,0}} - 40 H c_{2,0} + \left(\frac{1}{2} c c_{1,0}^2 + \right. \right. \\
& \left. \left. e c_{1,0}^2 \right) S_2 - b c_{1,0}^2 + C c_{2,0} + 3 E c_{2,0} - 12 J c_{2,0} - \frac{1}{2} \right) \lambda L_{2,0}(t) + \left(-2 (K^2 - K \right. \\
& \left. + 1) \left((B c_{2,0} - 4 G_{c_{2,0}}) K^6 + (A c_{2,0} - 2 F c_{2,0}) K^4 + 2 H c_{2,0} \right) (K - 1) K^2 (K^2 + K \right. \\
& \left. + 1) (K + 1) \lambda^2 + \left(\left((14 B c_{2,0} - 8 G_{c_{2,0}}) \lambda I + 2 B c_{2,0} - 26 G_{c_{2,0}} \right) K^{14} + (10 \lambda I A c_{2,0} \right. \right. \\
& \left. \left. + 2 A c_{2,0} - 18 F c_{2,0} \right) K^{12} + (-24 \lambda I J c_{2,0} - 2 J c_{2,0}) K^{10} + \left((-14 B c_{2,0} + 92 G_{c_{2,0}} \right. \right. \\
& \left. \left. - 80 H c_{2,0}) \lambda I - 8 B c_{2,0} + 50 G_{c_{2,0}} - 2 H c_{2,0} \right) K^8 + \left((-10 A c_{2,0} + 36 F c_{2,0}) \lambda I \right. \right. \\
& \left. \left. - 8 A c_{2,0} + 6 B c_{2,0} + 30 F c_{2,0} - 24 G_{c_{2,0}} \right) K^6 + (12 \lambda I J c_{2,0} + 6 A c_{2,0} - 12 F c_{2,0} \right. \\
& \left. + 2 J c_{2,0}) K^4 + (20 \lambda I H c_{2,0} - 10 H c_{2,0}) K^2 + 12 H c_{2,0} \right) \lambda^2 + \left(\left((-14 B c_{2,0} \right. \right. \\
& \left. \left. + 8 G_{c_{2,0}}) \lambda I + 18 G_{c_{2,0}} \right) K^{14} + (-10 \lambda I A c_{2,0} + S_2 (S_1 a c_{1,0}^2 - c c_{1,0}^2) + 14 F c_{2,0}) K^{12} \right. \\
& \left. + (24 \lambda I J c_{2,0} + 2 J c_{2,0}) K^{10} + \left((56 B c_{2,0} - 368 G_{c_{2,0}} + 80 H c_{2,0}) \lambda I - 2 S_2 e c_{1,0}^2 \right. \right. \\
& \left. \left. - 72 G_{c_{2,0}} + 6 H c_{2,0} \right) K^8 + \left((40 A c_{2,0} - 42 B c_{2,0} - 144 F c_{2,0} + 360 G_{c_{2,0}}) \lambda I \right. \right. \\
& \left. \left. + 138 G_{c_{2,0}} + (-S_1 a c_{1,0}^2 + c c_{1,0}^2) S_2 - 56 F c_{2,0} \right) K^6 + \left((-30 A c_{2,0} + 144 F c_{2,0} \right. \right. \\
& \left. \left. - 48 J c_{2,0}) \lambda I + 78 F c_{2,0} - 8 J c_{2,0} \right) K^4 + \left((-80 H c_{2,0} + 24 J c_{2,0}) \lambda I + 2 S_2 e c_{1,0}^2 \right. \right. \\
& \left. \left. - 24 H c_{2,0} - 6 J c_{2,0} \right) K^2 - 42 H c_{2,0} \right) \lambda^2 - (K - 1)^2 S_2 (K^4 + 2 K^2 + 3) \left((S_1 a c_{1,0}^2 - \right. \\
& \left. c c_{1,0}^2) K^4 - 2 e c_{1,0}^2 \right) (K + 1)^2 M_{2,0}(t) - 8 \lambda^2 \left(\left(-\frac{3}{2} (K - 1) \left(F_{2,0} + 2 G_{2,0} - H_{2,0} \right. \right. \right. \\
& \left. \left. - \frac{1}{2} A_{2,0} - \frac{1}{2} B_{2,0} \right) \left(K^6 \lambda I + \left(-\frac{1}{3} \lambda I - \frac{1}{3} \right) K^4 + \left(-\frac{1}{3} \lambda I - \frac{1}{3} \right) K^2 - \frac{1}{3} \lambda I \right. \right. \\
& \left. \left. - \frac{1}{3} \right) (K + 1) \lambda^2 + \left(\frac{39}{4} \left(F_{2,0} + \frac{23}{13} G_{2,0} - \frac{7}{13} H_{2,0} - \frac{1}{13} J_{2,0} \right) \lambda I K^8 \right. \right. \\
& \left. \left. - 7 \left(\frac{9}{7} G_{2,0} + \frac{3}{7} H_{2,0} + \frac{1}{7} J_{2,0} + F_{2,0} \right) \left(\lambda I + \frac{1}{4} \right) K^6 + \frac{7}{4} (\lambda I + 1) \left(\frac{9}{7} G_{2,0} \right. \right. \\
& \left. \left. + \frac{3}{7} H_{2,0} + \frac{1}{7} J_{2,0} + F_{2,0} \right) \right) \lambda^2 + \frac{9}{4} \left(E_{2,0} - 8 F_{2,0} - 20 G_{2,0} - \frac{4}{3} J_{2,0} \right. \\
& \left. + \frac{1}{3} C_{2,0} \right) \lambda I K^8 - 3 \left(\lambda I + \frac{1}{4} \right) \left(-6 F_{2,0} - \frac{46}{3} G_{2,0} - \frac{10}{3} H_{2,0} - 2 J_{2,0} + E_{2,0} \right. \\
& \left. + \frac{1}{3} C_{2,0} \right) K^6 + \frac{3}{4} (\lambda I + 1) \left(E_{2,0} - \frac{4}{3} G_{2,0} - \frac{40}{3} H_{2,0} - 4 J_{2,0} + \frac{1}{3} C_{2,0} \right) \left. \right) \\
& L c_{2,0}(t) + \left(- \left(\left(G_{2,0} - \frac{1}{4} B_{2,0} \right) K^6 + \left(\frac{1}{2} F_{2,0} - \frac{1}{4} A_{2,0} \right) K^4 - \frac{1}{2} H_{2,0} \right) (K^2 - K \right. \right. \\
& \left. \left. + 1) (K - 1) K^2 (K^2 + K + 1) (K + 1) \lambda^2 + \left(\left(\left(-\frac{7}{4} B_{2,0} + G_{2,0} \right) \lambda I + \frac{13}{4} G_{2,0} \right. \right. \right.
\end{aligned}$$

$$\begin{aligned}
& -\frac{1}{4} B_{2,0}) K^{14} + \left(-\frac{5}{4} \lambda A_{2,0} - \frac{1}{4} A_{2,0} + \frac{9}{4} F_{2,0}\right) K^{12} + 3 \left(\lambda + \frac{1}{12}\right) J_{2,0} K^{10} \\
& + \left(\left(\frac{7}{4} B_{2,0} - \frac{23}{2} G_{2,0} + 10 H_{2,0}\right) \lambda + \frac{1}{4} H_{2,0} + B_{2,0} - \frac{25}{4} G_{2,0}\right) K^8 + \left(\left(\frac{5}{4} A_{2,0} - \frac{9}{2} F_{2,0}\right) \lambda + A_{2,0} + 3 G_{2,0} - \frac{15}{4} F_{2,0} - \frac{3}{4} B_{2,0}\right) K^6 + \left(\frac{3}{2} F_{2,0} - \frac{1}{4} J_{2,0} - \frac{3}{2} J_{2,0} \lambda - \frac{3}{4} A_{2,0}\right) K^4 - \frac{5}{2} H_{2,0} \left(\lambda - \frac{1}{2}\right) K^2 - \frac{3}{2} H_{2,0} \lambda^2 + \left(\left(\frac{7}{4} B_{2,0} - G_{2,0}\right) \lambda - \frac{9}{4} G_{2,0}\right) K^{14} + \left(\frac{5}{4} \lambda A_{2,0} - \frac{7}{4} F_{2,0}\right) K^{12} - 3 \left(\lambda + \frac{1}{12}\right) J_{2,0} K^{10} \\
& + \left((-7 B_{2,0} + 46 G_{2,0} - 10 H_{2,0}) \lambda - \frac{3}{4} H_{2,0} + 9 G_{2,0}\right) K^8 + \left(\left(-5 A_{2,0} + \frac{21}{4} B_{2,0} + 18 F_{2,0} - 45 G_{2,0}\right) \lambda - \frac{69}{4} G_{2,0} + 7 F_{2,0}\right) K^6 + \left(\left(\frac{15}{4} A_{2,0} - 18 F_{2,0} + 6 J_{2,0}\right) \lambda - \frac{39}{4} F_{2,0} + J_{2,0}\right) K^4 + \left((10 H_{2,0} - 3 J_{2,0}) \lambda + \frac{3}{4} J_{2,0} + 3 H_{2,0}\right) K^2 + \frac{21}{4} H_{2,0} \lambda^2 \\
& \left. \left. M_{c_{2,0}}(t)\right)\right) \Bigg/ \left(\lambda^2 (K-1)^2 \left((\lambda-1) K^{12} + (2\lambda-2) K^{10} + (3\lambda-3) K^8 - 3 K^6 + (-3\lambda-3) K^4 + (-2\lambda-2) K^2 - \lambda - 1\right) \lambda^2 - (K-1) \left((\lambda-1) K^{10} + (3\lambda-3) K^8 + (6\lambda-6) K^6 + (-6\lambda-6) K^4 + (-3\lambda-3) K^2 - \lambda - 1\right) (K+1)\right) (K+1)^2):
\end{aligned}$$

$$\begin{aligned}
> H_{4,1} := & \frac{3}{8} \left(K^2 \left(\lambda^2 K^6 \left((\lambda^2 - 1) (\lambda - 1) K^8 + ((-4\lambda + 1) \lambda^2 - 4\lambda + 1) K^2 + 5\lambda (\lambda^2 + 1) \right) \left(\frac{d}{dt} L_{c_{4,1}}(t) \right) + 5\lambda^2 \left((\lambda - 1) K^8 - \frac{1}{5} (\lambda^2 + 4) (\lambda - 1) K^6 - \frac{1}{5} (\lambda^2 + 1) (\lambda + 1) \right) K^4 \left(\frac{d}{dt} M_{c_{4,1}}(t) \right) - \frac{1}{3} \lambda^2 K^6 \left((\lambda - 1) \left((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda^2 + (7Fc_{2,0} + 9Gc_{2,0} + 3Hc_{2,0} + Jc_{2,0}) \lambda - 46Gc_{2,0} - 10Hc_{2,0} + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2\right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3Ec_{2,0} - 18Fc_{2,0} - 6Jc_{2,0} - \frac{1}{2} \right) K^8 - 4 \left((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda^2 + (7Fc_{2,0} + 9Gc_{2,0} + 3Hc_{2,0} + Jc_{2,0}) \lambda - 4Gc_{2,0} - 40Hc_{2,0} + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2\right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3Ec_{2,0} - 12Jc_{2,0} - \frac{1}{2} \right) \left(\lambda - \frac{1}{4} \right) K^2 + 3\lambda \left((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda^2 + (13Fc_{2,0} + 23Gc_{2,0} - 7Hc_{2,0} - Jc_{2,0}) \lambda^2 + 10Gc_{2,0} - 50Hc_{2,0} + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2\right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3Ec_{2,0} + 6Fc_{2,0} - 14Jc_{2,0} - \frac{1}{2} \right) \right) L_{c_{2,0}}(t) + \left(-7\lambda^2 \left(\left(-\frac{1}{7} Bc_{2,0} + \frac{4}{7} Gc_{2,0}\right) \lambda^2 + \left(Bc_{2,0} + \frac{10}{7} Gc_{2,0}\right) \lambda - \frac{23}{7} Gc_{2,0}\right) K^{14} + \left(\left(-\frac{1}{3} Bc_{2,0} + \frac{4}{3} Gc_{2,0}\right) \lambda^3 + \left(\left(\frac{7}{3} Bc_{2,0} - \frac{4}{3} Gc_{2,0}\right) \lambda - \frac{4}{3} Bc_{2,0} + \frac{7}{3} Gc_{2,0} - 2Fc_{2,0} + Ac_{2,0}\right) \lambda^2 + \left(\left(-5Ac_{2,0} + \frac{28}{3} Bc_{2,0} - 6Fc_{2,0} - \frac{16}{3} Gc_{2,0}\right) \lambda - 12Gc_{2,0}\right) \right. \right.
\end{aligned}$$

$$\begin{aligned}
& + 13 F_{c_{2,0}} \lambda^2 - \frac{1}{2} S_2 (S_1 a c_{1,0}^2 - c c_{1,0}^2) K^{12} + \left(\left(-\frac{1}{3} A_{c_{2,0}} + \frac{2}{3} F_{c_{2,0}} \right) \lambda^3 \right. \\
& + \left(\frac{5}{3} \lambda A_{c_{2,0}} + \frac{1}{3} F_{c_{2,0}} - \frac{4}{3} A_{c_{2,0}} \right) \lambda^2 + \left(\left(\frac{20}{3} A_{c_{2,0}} + 14 J_{c_{2,0}} \right) \lambda + \left(-\frac{1}{6} c c_{1,0}^2 \right. \right. \\
& + \left. \left. \frac{1}{6} a c_{1,0}^2 S_1 \right) S_2 - \frac{28}{3} F_{c_{2,0}} - J_{c_{2,0}} \right) \lambda^2 + \frac{2}{3} S_2 (S_1 a c_{1,0}^2 - c c_{1,0}^2) K^{10} + \left(\left(\right. \right. \\
& - \frac{1}{3} J_{c_{2,0}} - 4 \lambda J_{c_{2,0}} + 2 H_{c_{2,0}} \left. \right) \lambda^2 + \left((50 H_{c_{2,0}} - 16 J_{c_{2,0}}) \lambda - \frac{4}{3} J_{c_{2,0}} \right. \\
& - 7 H_{c_{2,0}} \left. \right) \lambda^2 + S_2 e c_{1,0}^2 K^8 + \left(\left(\frac{1}{3} B_{c_{2,0}} - \frac{4}{3} G_{c_{2,0}} - \frac{2}{3} H_{c_{2,0}} \right) \lambda^3 + \left(\left(-\frac{7}{3} B_{c_{2,0}} \right. \right. \right. \\
& + \frac{46}{3} G_{c_{2,0}} - \frac{40}{3} H_{c_{2,0}} \left. \right) \lambda - \frac{11}{3} H_{c_{2,0}} + \frac{1}{3} B_{c_{2,0}} + \frac{5}{3} G_{c_{2,0}} \left. \right) \lambda^2 + \left(\left(-\frac{7}{3} B_{c_{2,0}} \right. \right. \\
& + \frac{46}{3} G_{c_{2,0}} - \frac{160}{3} H_{c_{2,0}} \left. \right) \lambda - \frac{1}{3} S_2 e c_{1,0}^2 - 4 H_{c_{2,0}} + 3 G_{c_{2,0}} \left. \right) \lambda^2 - \frac{4}{3} S_2 e c_{1,0}^2 K^6 \\
& - \frac{5}{3} \left(\left(-\frac{1}{5} A_{c_{2,0}} + \frac{2}{5} F_{c_{2,0}} \right) \lambda^2 + \left(\left(A_{c_{2,0}} - \frac{18}{5} F_{c_{2,0}} \right) \lambda - \frac{7}{5} F_{c_{2,0}} \right) \lambda^2 \right. \\
& + \frac{1}{10} S_2 (S_1 a c_{1,0}^2 - c c_{1,0}^2) \left. \right) (\lambda^2 + 1) K^4 + 2 \lambda^2 (\lambda^2 + 1) \left(\lambda + \frac{1}{6} \right) J_{c_{2,0}} K^2 \\
& + \frac{10}{3} (\lambda^2 + 1) \left(\frac{1}{5} \lambda^2 H_{c_{2,0}} + H_{c_{2,0}} \left(\lambda + \frac{3}{10} \right) \lambda^2 + \frac{1}{10} S_2 e c_{1,0}^2 \right) M_{c_{2,0}}(t) \\
& + \lambda^2 \left(K^6 \left((\lambda - 1) \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \right) \lambda^2 \right. \right. \right. \\
& + \left(\frac{7}{3} F_{2,0} + 3 G_{2,0} + H_{2,0} + \frac{1}{3} J_{2,0} \right) \lambda^2 + E_{2,0} - 6 F_{2,0} - \frac{46}{3} G_{2,0} - \frac{10}{3} H_{2,0} \\
& - 2 J_{2,0} + \frac{1}{3} C_{2,0} \left. \right) K^8 - 4 \left(\lambda - \frac{1}{4} \right) \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} \right. \right. \\
& + \frac{2}{3} H_{2,0} \left. \right) \lambda^2 + \left(\frac{7}{3} F_{2,0} + 3 G_{2,0} + H_{2,0} + \frac{1}{3} J_{2,0} \right) \lambda^2 + E_{2,0} - \frac{4}{3} G_{2,0} - \frac{40}{3} H_{2,0} \\
& - 4 J_{2,0} + \frac{1}{3} C_{2,0} \left. \right) K^2 + 3 \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \right) \lambda^2 \right. \\
& + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \right) \lambda^2 + \frac{1}{3} C_{2,0} + E_{2,0} + 2 F_{2,0} + \frac{10}{3} G_{2,0} \\
& - \frac{50}{3} H_{2,0} - \frac{14}{3} J_{2,0} \left. \right) \lambda \left. \right) L_{2,0}(t) + 10 M_{2,0}(t) \left(\left(\left(-\frac{1}{10} B_{2,0} + \frac{2}{5} G_{2,0} \right) \lambda^2 \right. \right. \\
& + \left(\frac{7}{10} B_{2,0} + G_{2,0} \right) \lambda - \frac{23}{10} G_{2,0} \left. \right) K^{14} + \left(\left(\frac{1}{30} B_{2,0} - \frac{2}{15} G_{2,0} \right) \lambda^2 + \left(\left(\right. \right. \right. \\
& - \frac{7}{30} B_{2,0} + \frac{2}{15} G_{2,0} \left. \right) \lambda - \frac{7}{30} G_{2,0} + \frac{1}{5} F_{2,0} - \frac{1}{10} A_{2,0} + \frac{2}{15} B_{2,0} \left. \right) \lambda^2 + \left(\left(\right. \right. \\
& - \frac{14}{15} B_{2,0} + \frac{1}{2} A_{2,0} + \frac{3}{5} F_{2,0} + \frac{8}{15} G_{2,0} \left. \right) \lambda - \frac{13}{10} F_{2,0} + \frac{6}{5} G_{2,0} \left. \right) K^{12} + \left(\left(\frac{1}{30} A_{2,0} \right. \right. \\
& - \frac{1}{15} F_{2,0} \left. \right) \lambda^2 + \left(-\frac{1}{30} F_{2,0} + \frac{2}{15} A_{2,0} - \frac{1}{6} \lambda A_{2,0} \right) \lambda^2 + \left(-\frac{2}{3} A_{2,0} - \frac{7}{5} J_{2,0} \right) \lambda \\
& + \frac{1}{10} J_{2,0} + \frac{14}{15} F_{2,0} \left. \right) K^{10} + \left(\left(\frac{2}{5} J_{2,0} \lambda + \frac{1}{30} J_{2,0} - \frac{1}{5} H_{2,0} \right) \lambda^2 + \left(-5 H_{2,0} \right. \right. \\
& + \frac{8}{5} J_{2,0} \left. \right) \lambda + \frac{7}{10} H_{2,0} + \frac{2}{15} J_{2,0} \left. \right) K^8 + \left(\left(\frac{1}{15} H_{2,0} + \frac{2}{15} G_{2,0} - \frac{1}{30} B_{2,0} \right) \lambda^2 \right. \\
& + \left(\left(-\frac{23}{15} G_{2,0} + \frac{7}{30} B_{2,0} + \frac{4}{3} H_{2,0} \right) \lambda + \frac{11}{30} H_{2,0} - \frac{1}{6} G_{2,0} - \frac{1}{30} B_{2,0} \right) \lambda^2
\end{aligned}$$

$$\begin{aligned}
& + \left(\frac{7}{30} B_{2,0} + \frac{16}{3} H_{2,0} - \frac{23}{15} G_{2,0} \right) \lambda l - \frac{3}{10} G_{2,0} + \frac{2}{5} H_{2,0} \Big) K^6 - \frac{3}{5} (\lambda + 1) \left(\left(-\frac{1}{9} F_{2,0} + \frac{1}{18} A_{2,0} \right) \lambda + \left(F_{2,0} - \frac{5}{18} A_{2,0} \right) \lambda l + \frac{7}{18} F_{2,0} \right) K^4 - \frac{1}{5} (\lambda + 1) \left(\lambda l + \frac{1}{6} \right) J_{2,0} K^2 - \frac{1}{3} H_{2,0} \left(\frac{1}{5} \lambda + \lambda l + \frac{3}{10} \right) (\lambda + 1) \Big) \Big) \Big) / (\lambda (K-1)^2 ((\lambda - 1) (\lambda - 1) K^{12} + 2 (\lambda - 1) (\lambda - 1) K^{10} + 3 (\lambda - 1) (\lambda - 1) K^8 + (12 \lambda - 3 \lambda) K^6 - 3 (\lambda + 1) (\lambda + 1) K^4 - 2 (\lambda + 1) (\lambda + 1) K^2 - (\lambda + 1) (\lambda + 1)) (K+1)^2) : \\
\end{aligned}$$

$$\begin{aligned}
> H_{c_{4,1}} := & \frac{3}{8} \left(\left(-\lambda K^6 ((\lambda - 1) (\lambda - 1) K^8 + ((-4 \lambda + 1) \lambda - 4 \lambda + 1) K^2 + 5 \lambda (\lambda + 1)) \right) \left(\frac{d}{dt} L_{4,1}(t) \right) - 5 \lambda \left((\lambda - 1) K^8 - \frac{1}{5} (\lambda + 4) (\lambda - 1) K^6 - \frac{1}{5} (\lambda + 1) (\lambda + 1) \right) K^4 \left(\frac{d}{dt} M_{4,1}(t) \right) + \frac{1}{3} \lambda K^6 \left((\lambda - 1) \left((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda^2 + (7Fc_{2,0} + 9Gc_{2,0} + 3Hc_{2,0} + Jc_{2,0}) \lambda - 46Gc_{2,0} - 10Hc_{2,0} + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3Ec_{2,0} - 18Fc_{2,0} - 6Jc_{2,0} - \frac{1}{2} \right) K^8 - 4 \left((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda^2 + (7Fc_{2,0} + 9Gc_{2,0} + 3Hc_{2,0} + Jc_{2,0}) \lambda - 4Gc_{2,0} - 40Hc_{2,0} + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3Ec_{2,0} - 12Jc_{2,0} - \frac{1}{2} \right) \left(\lambda - \frac{1}{4} \right) K^2 + 3 \lambda \left((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda^2 + (13Fc_{2,0} + 23Gc_{2,0} - 7Hc_{2,0} - Jc_{2,0}) \lambda + 10Gc_{2,0} - 50Hc_{2,0} + \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3Ec_{2,0} + 6Fc_{2,0} - 14Jc_{2,0} - \frac{1}{2} \right) \right) L_{2,0}(t) + \left(7 \lambda \left(\left(-\frac{1}{7} Bc_{2,0} + \frac{4}{7} Gc_{2,0} \right) \lambda + \left(Bc_{2,0} + \frac{10}{7} Gc_{2,0} \right) \lambda l - \frac{23}{7} Gc_{2,0} \right) K^{14} + \left(\left(\frac{1}{3} Bc_{2,0} - \frac{4}{3} Gc_{2,0} \right) \lambda^3 + \left(\left(-\frac{7}{3} Bc_{2,0} + \frac{4}{3} Gc_{2,0} \right) \lambda l + \frac{4}{3} Bc_{2,0} - \frac{7}{3} Gc_{2,0} + 2Fc_{2,0} - Ac_{2,0} \right) \lambda^2 + \left(\left(5Ac_{2,0} - \frac{28}{3} Bc_{2,0} + 6Fc_{2,0} + \frac{16}{3} Gc_{2,0} \right) \lambda l + 12Gc_{2,0} - 13Fc_{2,0} \right) \lambda + \frac{1}{2} S2 (Sl ac_{1,0}^2 - cc_{1,0}^2) \right) K^{12} + \left(\left(\frac{1}{3} Ac_{2,0} - \frac{2}{3} Fc_{2,0} \right) \lambda^3 + \left(-\frac{5}{3} \lambda Ac_{2,0} - \frac{1}{3} Fc_{2,0} + \frac{4}{3} Ac_{2,0} \right) \lambda^2 + \left(\left(-\frac{20}{3} Ac_{2,0} - 14Jc_{2,0} \right) \lambda l + \left(\frac{1}{6} cc_{1,0}^2 - \frac{1}{6} ac_{1,0}^2 Sl \right) S2 + \frac{28}{3} Fc_{2,0} + Jc_{2,0} \right) \lambda - \frac{2}{3} S2 (Sl ac_{1,0}^2 - cc_{1,0}^2) \right) K^{10} + \left(\left(\frac{1}{3} Jc_{2,0} + 4 \lambda Jc_{2,0} - 2Hc_{2,0} \right) \lambda^2 + \left((-50Hc_{2,0} + 16Jc_{2,0}) \lambda l + \frac{4}{3} Jc_{2,0} + 7Hc_{2,0} \right) \lambda - S2 ec_{1,0}^2 \right) K^8 + \left(\left(-\frac{1}{3} Bc_{2,0} + \frac{4}{3} Gc_{2,0} + \frac{2}{3} Hc_{2,0} \right) \lambda^3 + \left(\left(\frac{7}{3} Bc_{2,0} - \frac{46}{3} Gc_{2,0} + \frac{40}{3} Hc_{2,0} \right) \lambda l + \frac{11}{3} Hc_{2,0} - \frac{1}{3} Bc_{2,0} - \frac{5}{3} Gc_{2,0} \right) \lambda^2 + \left(\left(\frac{7}{3} Bc_{2,0} \right. \right. \right.
\end{aligned}$$

$$\begin{aligned}
& -\frac{46}{3} G_{2,0} + \frac{160}{3} H_{2,0} \Big) \lambda l + \frac{1}{3} S_2 e c_{1,0}^2 + 4 H_{2,0} - 3 G_{2,0} \Big) \lambda^2 + \frac{4}{3} S_2 e c_{1,0}^2 \Big) K^6 \\
& + \frac{5}{3} \left(\left(-\frac{1}{5} A_{2,0} + \frac{2}{5} F_{2,0} \right) \lambda^2 + \left(\left(A_{2,0} - \frac{18}{5} F_{2,0} \right) \lambda - \frac{7}{5} F_{2,0} \right) \lambda^2 \right. \\
& + \frac{1}{10} S_2 \left(S_1 a c_{1,0}^2 - c c_{1,0}^2 \right) \Big) (\lambda^2 + 1) K^4 - 2 \lambda^2 (\lambda^2 + 1) \left(\lambda l + \frac{1}{6} \right) J_{2,0} K^2 \\
& - \frac{10}{3} (\lambda^2 + 1) \left(\frac{1}{5} \lambda^2 H_{2,0} + H_{2,0} \left(\lambda l + \frac{3}{10} \right) \lambda^2 + \frac{1}{10} S_2 e c_{1,0}^2 \right) M_{2,0}(t) \\
& + \lambda^2 \left(K^6 \left((\lambda l - 1) \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \right) \lambda^2 \right. \right. \right. \\
& + \left(\frac{7}{3} F_{2,0} + 3 G_{2,0} + H_{2,0} + \frac{1}{3} J_{2,0} \right) \lambda^2 + E_{2,0} - 6 F_{2,0} - \frac{46}{3} G_{2,0} - \frac{10}{3} H_{2,0} \\
& - 2 J_{2,0} + \frac{1}{3} C_{2,0} \Big) K^8 - 4 \left(\lambda l - \frac{1}{4} \right) \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} \right. \right. \\
& + \left. \left. \frac{2}{3} H_{2,0} \right) \lambda^2 + \left(\frac{7}{3} F_{2,0} + 3 G_{2,0} + H_{2,0} + \frac{1}{3} J_{2,0} \right) \lambda^2 + E_{2,0} - \frac{4}{3} G_{2,0} - \frac{40}{3} H_{2,0} \right. \\
& - 4 J_{2,0} + \frac{1}{3} C_{2,0} \Big) K^2 + 3 \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \right) \lambda^2 \right. \\
& + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \right) \lambda^2 + \frac{1}{3} C_{2,0} + E_{2,0} + 2 F_{2,0} + \frac{10}{3} G_{2,0} \\
& - \frac{50}{3} H_{2,0} - \frac{14}{3} J_{2,0} \Big) \lambda l \Big) L_{2,0}(t) + 10 \left(\left(\left(-\frac{1}{10} B_{2,0} + \frac{2}{5} G_{2,0} \right) \lambda^2 + \left(\frac{7}{10} B_{2,0} \right. \right. \right. \\
& + \left. \left. G_{2,0} \right) \lambda l - \frac{23}{10} G_{2,0} \right) K^{14} + \left(\left(\frac{1}{30} B_{2,0} - \frac{2}{15} G_{2,0} \right) \lambda^2 + \left(\left(-\frac{7}{30} B_{2,0} \right. \right. \right. \\
& + \left. \left. \frac{2}{15} G_{2,0} \right) \lambda l - \frac{7}{30} G_{2,0} + \frac{1}{5} F_{2,0} - \frac{1}{10} A_{2,0} + \frac{2}{15} B_{2,0} \right) \lambda^2 + \left(-\frac{14}{15} B_{2,0} \right. \\
& + \left. \frac{1}{2} A_{2,0} + \frac{3}{5} F_{2,0} + \frac{8}{15} G_{2,0} \right) \lambda l - \frac{13}{10} F_{2,0} + \frac{6}{5} G_{2,0} \Big) K^{12} + \left(\left(\frac{1}{30} A_{2,0} \right. \right. \\
& - \left. \left. \frac{1}{15} F_{2,0} \right) \lambda^2 + \left(-\frac{1}{30} F_{2,0} + \frac{2}{15} A_{2,0} - \frac{1}{6} \lambda l A_{2,0} \right) \lambda^2 + \left(-\frac{2}{3} A_{2,0} - \frac{7}{5} J_{2,0} \right) \lambda l \right. \\
& + \left. \frac{1}{10} J_{2,0} + \frac{14}{15} F_{2,0} \right) K^{10} + \left(\left(\frac{2}{5} J_{2,0} \lambda l + \frac{1}{30} J_{2,0} - \frac{1}{5} H_{2,0} \right) \lambda^2 + \left(-5 H_{2,0} \right. \right. \\
& + \left. \frac{8}{5} J_{2,0} \right) \lambda l + \frac{7}{10} H_{2,0} + \frac{2}{15} J_{2,0} \Big) K^8 + \left(\left(\frac{1}{15} H_{2,0} + \frac{2}{15} G_{2,0} - \frac{1}{30} B_{2,0} \right) \lambda^2 \right. \\
& + \left(\left(-\frac{23}{15} G_{2,0} + \frac{7}{30} B_{2,0} + \frac{4}{3} H_{2,0} \right) \lambda l + \frac{11}{30} H_{2,0} - \frac{1}{6} G_{2,0} - \frac{1}{30} B_{2,0} \right) \lambda^2 \\
& + \left(\frac{7}{30} B_{2,0} + \frac{16}{3} H_{2,0} - \frac{23}{15} G_{2,0} \right) \lambda l - \frac{3}{10} G_{2,0} + \frac{2}{5} H_{2,0} \Big) K^6 - \frac{3}{5} (\lambda^2 + 1) \left(\left(\right. \right. \\
& - \frac{1}{9} F_{2,0} + \frac{1}{18} A_{2,0} \Big) \lambda^2 + \left(F_{2,0} - \frac{5}{18} A_{2,0} \right) \lambda l + \frac{7}{18} F_{2,0} \Big) K^4 - \frac{1}{5} (\lambda^2 + 1) \left(\lambda l \right. \\
& + \left. \frac{1}{6} \right) J_{2,0} K^2 - \frac{1}{3} H_{2,0} \left(\frac{1}{5} \lambda^2 + \lambda l + \frac{3}{10} \right) (\lambda^2 + 1) M_{2,0}(t) \Big) K^2 \Big) / (\lambda^2 (K \\
& - 1)^2 ((\lambda^2 - 1) (\lambda l - 1) K^{12} + 2 (\lambda^2 - 1) (\lambda l - 1) K^{10} + 3 (\lambda^2 - 1) (\lambda l - 1) K^8 \\
& + (12 \lambda l - 3 \lambda^2) K^6 - 3 (\lambda^2 + 1) (\lambda l + 1) K^4 - 2 (\lambda^2 + 1) (\lambda l + 1) K^2 - (\lambda^2 \\
& + 1) (\lambda l + 1) (K + 1)^2) :
\end{aligned}$$

$$> J_{4,1} := \frac{1}{16} \left(-10 \lambda^2 ((\lambda^2 - 1) (\lambda l - 1) K^{10} - 3 \lambda l (\lambda^2 + 1) K^2 + (4 \lambda l + 1) \lambda^2 + 4 \lambda l \right.$$

$$\begin{aligned}
& + 1) K^6 \left(\frac{d}{dt} L_{c_{4,1}}(t) \right) + 10 \lambda^2 \left((\lambda^2 - 4) (\lambda - 1) K^{10} + (3 \lambda - 3) K^8 + (\lambda^2 \right. \\
& + 1) (\lambda + 1) \left. \right) K^4 \left(\frac{d}{dt} M_{c_{4,1}}(t) \right) + 2 \lambda^2 \left((\lambda - 1) \left((Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} \right. \right. \\
& - 4 Gc_{2,0} + 2 Hc_{2,0}) \lambda^2 + (13 Fc_{2,0} + 23 Gc_{2,0} - 7 Hc_{2,0} - Jc_{2,0}) \lambda - 60 Gc_{2,0} \\
& - 24 Fc_{2,0} + \left. \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3 Ec_{2,0} - 4 Jc_{2,0} - \frac{1}{2} \right) K^{10} \\
& - 5 \left((Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} - 4 Gc_{2,0} + 2 Hc_{2,0}) \lambda^2 + (7 Fc_{2,0} + 9 Gc_{2,0} + 3 Hc_{2,0} \right. \\
& + Jc_{2,0}) \lambda - 4 Gc_{2,0} - 40 Hc_{2,0} + \left. \left(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3 Ec_{2,0} \right. \\
& - 12 Jc_{2,0} - \frac{1}{2} \left. \right) \lambda K^2 + 4 \left((Ac_{2,0} + Bc_{2,0} - 2 Fc_{2,0} - 4 Gc_{2,0} + 2 Hc_{2,0}) \lambda^2 \right. \\
& + (13 Fc_{2,0} + 23 Gc_{2,0} - 7 Hc_{2,0} - Jc_{2,0}) \lambda + 10 Gc_{2,0} - 50 Hc_{2,0} + \left. \left(\frac{1}{2} cc_{1,0}^2 + \right. \right. \\
& ec_{1,0}^2 \left. \right) S2 - bc_{1,0}^2 + Cc_{2,0} + 3 Ec_{2,0} + 6 Fc_{2,0} - 14 Jc_{2,0} - \frac{1}{2} \left. \right) \left(\lambda + \frac{1}{4} \right) \left. \right) K^6 L_{c_{2,0}}(t) \\
& + \left(-14 \lambda^2 \left(\left(-\frac{1}{7} Bc_{2,0} + \frac{4}{7} Gc_{2,0} \right) \lambda^2 + \left(Bc_{2,0} + \frac{10}{7} Gc_{2,0} \right) \lambda - \frac{23}{7} Gc_{2,0} \right) (\lambda^2 \right. \\
& - 4) K^{16} + \left((2 Ac_{2,0} - 4 Fc_{2,0}) \lambda^3 + \left((-10 Ac_{2,0} - 12 Fc_{2,0}) \lambda - 8 Ac_{2,0} + 10 Bc_{2,0} \right. \right. \\
& + 42 Fc_{2,0} - 40 Gc_{2,0}) \lambda^2 + \left((40 Ac_{2,0} - 70 Bc_{2,0} + 48 Fc_{2,0} + 40 Gc_{2,0}) \lambda + 90 Gc_{2,0} \right. \\
& - 104 Fc_{2,0} + \left. \left(-S1 ac_{1,0}^2 + cc_{1,0}^2 \right) S2 \right) \lambda + 4 S2 \left(S1 ac_{1,0}^2 - cc_{1,0}^2 \right) \left. \right) K^{14} + \left((28 \lambda Jc_{2,0} \right. \\
& + 10 Ac_{2,0} - 20 Fc_{2,0} - 2 Jc_{2,0}) \lambda^2 + \left((-50 Ac_{2,0} - 112 Jc_{2,0}) \lambda + 70 Fc_{2,0} \right. \\
& + 8 Jc_{2,0}) \lambda - 5 S2 \left(S1 ac_{1,0}^2 - cc_{1,0}^2 \right) \left. \right) K^{12} + \left(4 \lambda^3 Hc_{2,0} + (100 \lambda Hc_{2,0} \right. \\
& - 30 Hc_{2,0}) \lambda^2 + \left((-400 Hc_{2,0} + 120 Jc_{2,0}) \lambda + 2 S2 ec_{1,0}^2 + 56 Hc_{2,0} + 10 Jc_{2,0}) \lambda^2 \right. \\
& - 8 S2 ec_{1,0}^2 \left. \right) K^{10} + \left(20 \lambda^2 Hc_{2,0} + (400 \lambda Hc_{2,0} + 30 Hc_{2,0}) \lambda + 10 S2 ec_{1,0}^2 \right) K^8 \\
& + 14 \left(\left(-\frac{1}{7} Bc_{2,0} + \frac{4}{7} Gc_{2,0} \right) \lambda^2 + \left(Bc_{2,0} - \frac{60}{7} Gc_{2,0} \right) \lambda - \frac{23}{7} Gc_{2,0} \right) \lambda^2 (\lambda^2 \\
& + 1) K^6 + 10 (\lambda^2 + 1) \left(\left(-\frac{1}{5} Ac_{2,0} + \frac{2}{5} Fc_{2,0} \right) \lambda^2 + \left(\left(Ac_{2,0} - \frac{24}{5} Fc_{2,0} \right) \lambda \right. \right. \\
& - \frac{13}{5} Fc_{2,0} \left. \right) \lambda + \frac{1}{10} S2 \left(S1 ac_{1,0}^2 - cc_{1,0}^2 \right) \left. \right) K^4 - 8 \lambda^2 (\lambda^2 + 1) \left(\lambda - \frac{1}{4} \right) Jc_{2,0} K^2 \\
& - 4 (\lambda^2 + 1) \left(\lambda^2 Hc_{2,0} + \frac{1}{2} S2 ec_{1,0}^2 - \frac{7}{2} \lambda Hc_{2,0} \right) \left. \right) M_{c_{2,0}}(t) - 6 \lambda^2 \left(\left((\lambda \right. \right. \\
& - 1) \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \right) \lambda^2 + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} \right. \right. \\
& + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \left. \right) \lambda - 20 G_{2,0} - 8 F_{2,0} - \frac{4}{3} J_{2,0} + E_{2,0} + \frac{1}{3} C_{2,0} \left. \right) K^{10} \\
& - 5 \lambda \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \right) \lambda^2 + \left(\frac{7}{3} F_{2,0} + 3 G_{2,0} \right. \right.
\end{aligned}$$

$$\begin{aligned}
& + H_{2,0} + \frac{1}{3} J_{2,0} \Big) \lambda^2 + E_{2,0} - \frac{4}{3} G_{2,0} - \frac{40}{3} H_{2,0} - 4 J_{2,0} + \frac{1}{3} C_{2,0} \Big) K^2 + 4 \Big(\lambda I \\
& + \frac{1}{4} \Big) \Big(\Big(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \Big) \lambda^2 + \Big(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} \\
& + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0} \Big) \lambda^2 + \frac{1}{3} C_{2,0} + E_{2,0} + 2 F_{2,0} + \frac{10}{3} G_{2,0} - \frac{50}{3} H_{2,0} - \frac{14}{3} J_{2,0} \Big) \\
& \Big) K^6 L_{2,0}(t) - \frac{10}{3} \Big(\Big(\Big(-\frac{1}{10} B_{2,0} + \frac{2}{5} G_{2,0} \Big) \lambda^2 + \Big(\frac{7}{10} B_{2,0} + G_{2,0} \Big) \lambda I \\
& - \frac{23}{10} G_{2,0} \Big) (\lambda^2 - 4) K^{16} + \Big(\Big(-\frac{1}{10} A_{2,0} + \frac{1}{5} F_{2,0} \Big) \lambda^2 + \Big(\Big(\frac{1}{2} A_{2,0} + \frac{3}{5} F_{2,0} \Big) \lambda I \\
& - \frac{21}{10} F_{2,0} + \frac{2}{5} A_{2,0} - \frac{1}{2} B_{2,0} + 2 G_{2,0} \Big) \lambda^2 + \Big(-2 A_{2,0} + \frac{7}{2} B_{2,0} - \frac{12}{5} F_{2,0} \\
& - 2 G_{2,0} \Big) \lambda I - \frac{9}{2} G_{2,0} + \frac{26}{5} F_{2,0} \Big) K^{14} + \Big(\Big(\frac{1}{10} J_{2,0} + F_{2,0} - \frac{7}{5} J_{2,0} \lambda I \\
& - \frac{1}{2} A_{2,0} \Big) \lambda^2 + \Big(\frac{5}{2} A_{2,0} + \frac{28}{5} J_{2,0} \Big) \lambda I - \frac{7}{2} F_{2,0} - \frac{2}{5} J_{2,0} \Big) K^{12} + \Big(-\frac{1}{5} \lambda^2 H_{2,0} \\
& - 5 H_{2,0} \Big(\lambda I - \frac{3}{10} \Big) \lambda^2 + \Big(-6 J_{2,0} + 20 H_{2,0} \Big) \lambda I - \frac{1}{2} J_{2,0} - \frac{14}{5} H_{2,0} \Big) K^{10} \\
& - 20 H_{2,0} \Big(\frac{3}{40} + \lambda I + \frac{1}{20} \lambda^2 \Big) K^8 + 6 \Big(\Big(-\frac{1}{15} G_{2,0} + \frac{1}{60} B_{2,0} \Big) \lambda^2 + \Big(G_{2,0} \\
& - \frac{7}{60} B_{2,0} \Big) \lambda I + \frac{23}{60} G_{2,0} \Big) (\lambda^2 + 1) K^6 + \frac{12}{5} (\lambda^2 + 1) \Big(\Big(-\frac{1}{12} F_{2,0} + \frac{1}{24} A_{2,0} \Big) \lambda^2 \\
& + \Big(F_{2,0} - \frac{5}{24} A_{2,0} \Big) \lambda I + \frac{13}{24} F_{2,0} \Big) K^4 + \frac{2}{5} (\lambda^2 + 1) \Big(\lambda I - \frac{1}{4} \Big) J_{2,0} K^2 \\
& + \frac{1}{5} H_{2,0} \Big(\lambda^2 - \frac{7}{2} \Big) (\lambda^2 + 1) \Big) M_{2,0}(t) \Big) \Big) / (\lambda^2 (K-1)^2 ((\lambda^2-1)(\lambda I-1) K^{12} \\
& + 2(\lambda^2-1)(\lambda I-1) K^{10} + 3(\lambda^2-1)(\lambda I-1) K^8 + (12\lambda I-3\lambda^2) K^6 - 3(\lambda^2 \\
& + 1)(\lambda I+1) K^4 - 2(\lambda^2+1)(\lambda I+1) K^2 - (\lambda^2+1)(\lambda I+1)) (K+1)^2) :
\end{aligned}$$

$$\begin{aligned}
> J_{c_{4,1}} := & \frac{1}{16} \Big(10 \lambda^2 ((\lambda^2-1)(\lambda I-1) K^{10} - 3 \lambda I (\lambda^2+1) K^2 + (4 \lambda I + 1) \lambda^2 + 4 \lambda I \\
& + 1) K^6 \Big(\frac{d}{dt} L_{4,1}(t) \Big) - 10 \lambda^2 ((\lambda^2-4)(\lambda I-1) K^{10} + (3 \lambda I - 3) K^8 + (\lambda^2 \\
& + 1)(\lambda I+1)) K^4 \Big(\frac{d}{dt} M_{4,1}(t) \Big) - 2 \lambda^2 K^6 \Big((\lambda I-1) \Big((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} \\
& - 4Gc_{2,0} + 2Hc_{2,0}) \lambda^2 + (13Fc_{2,0} + 23Gc_{2,0} - 7Hc_{2,0} - Jc_{2,0}) \lambda^2 - 60Gc_{2,0} \\
& - 24Fc_{2,0} + \Big(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \Big) S2 - bc_{1,0}^2 + Cc_{2,0} + 3Ec_{2,0} - 4Jc_{2,0} - \frac{1}{2} \Big) K^{10} \\
& - 5 \Big((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda^2 + (7Fc_{2,0} + 9Gc_{2,0} + 3Hc_{2,0} \\
& + Jc_{2,0}) \lambda^2 - 4Gc_{2,0} - 40Hc_{2,0} + \Big(\frac{1}{2} cc_{1,0}^2 + ec_{1,0}^2 \Big) S2 - bc_{1,0}^2 + Cc_{2,0} + 3Ec_{2,0} \\
& - 12Jc_{2,0} - \frac{1}{2} \Big) \lambda I K^2 + 4 \Big((Ac_{2,0} + Bc_{2,0} - 2Fc_{2,0} - 4Gc_{2,0} + 2Hc_{2,0}) \lambda^2 \\
& + (13Fc_{2,0} + 23Gc_{2,0} - 7Hc_{2,0} - Jc_{2,0}) \lambda^2 + 10Gc_{2,0} - 50Hc_{2,0} + \Big(\frac{1}{2} cc_{1,0}^2 + \\
& ec_{1,0}^2 \Big) S2 - bc_{1,0}^2 + Cc_{2,0} + 3Ec_{2,0} + 6Fc_{2,0} - 14Jc_{2,0} - \frac{1}{2} \Big) \Big(\lambda I + \frac{1}{4} \Big) \Big) L_{2,0}(t)
\end{aligned}$$

$$\begin{aligned}
& + \left(14 \lambda^2 \left(\left(-\frac{1}{7} B_{c_{2,0}} + \frac{4}{7} G_{c_{2,0}} \right) \lambda^2 + \left(B_{c_{2,0}} + \frac{10}{7} G_{c_{2,0}} \right) \lambda I - \frac{23}{7} G_{c_{2,0}} \right) (\lambda^2 \right. \\
& - 4) K^{16} + \left((-2 A_{c_{2,0}} + 4 F_{c_{2,0}}) \lambda^2 + \left((10 A_{c_{2,0}} + 12 F_{c_{2,0}}) \lambda I + 8 A_{c_{2,0}} - 10 B_{c_{2,0}} \right. \right. \\
& - 42 F_{c_{2,0}} + 40 G_{c_{2,0}}) \lambda^2 + \left((-40 A_{c_{2,0}} + 70 B_{c_{2,0}} - 48 F_{c_{2,0}} - 40 G_{c_{2,0}}) \lambda I \right. \\
& - 90 G_{c_{2,0}} + 104 F_{c_{2,0}} + S2 \left(S1 ac_{1,0}^2 - cc_{1,0}^2 \right) \lambda^2 - 4 S2 \left(S1 ac_{1,0}^2 - cc_{1,0}^2 \right) K^{14} + \left(\left(\right. \right. \\
& - 28 \lambda I J_{c_{2,0}} - 10 A_{c_{2,0}} + 20 F_{c_{2,0}} + 2 J_{c_{2,0}}) \lambda^2 + \left((50 A_{c_{2,0}} + 112 J_{c_{2,0}}) \lambda I - 70 F_{c_{2,0}} \right. \\
& - 8 J_{c_{2,0}}) \lambda^2 + 5 S2 \left(S1 ac_{1,0}^2 - cc_{1,0}^2 \right) K^{12} + \left(-4 \lambda^2 H_{c_{2,0}} + (-100 \lambda I H_{c_{2,0}} \right. \\
& + 30 H_{c_{2,0}}) \lambda^2 + \left((400 H_{c_{2,0}} - 120 J_{c_{2,0}}) \lambda I - 2 S2 ec_{1,0}^2 - 56 H_{c_{2,0}} - 10 J_{c_{2,0}}) \lambda^2 \right. \\
& + 8 S2 ec_{1,0}^2) K^{10} + \left(-20 \lambda^2 H_{c_{2,0}} + (-400 \lambda I H_{c_{2,0}} - 30 H_{c_{2,0}}) \lambda^2 - 10 S2 ec_{1,0}^2 \right) K^8 \\
& - 14 \left(\left(-\frac{1}{7} B_{c_{2,0}} + \frac{4}{7} G_{c_{2,0}} \right) \lambda^2 + \left(B_{c_{2,0}} - \frac{60}{7} G_{c_{2,0}} \right) \lambda I - \frac{23}{7} G_{c_{2,0}} \right) \lambda^2 (\lambda^2 \\
& + 1) K^6 - 10 (\lambda^2 + 1) \left(\left(-\frac{1}{5} A_{c_{2,0}} + \frac{2}{5} F_{c_{2,0}} \right) \lambda^2 + \left(\left(A_{c_{2,0}} - \frac{24}{5} F_{c_{2,0}} \right) \lambda I \right. \right. \\
& - \frac{13}{5} F_{c_{2,0}}) \lambda^2 + \frac{1}{10} S2 \left(S1 ac_{1,0}^2 - cc_{1,0}^2 \right) K^4 + 8 \lambda^2 (\lambda^2 + 1) \left(\lambda I - \frac{1}{4} \right) J_{c_{2,0}} K^2 \\
& + 4 (\lambda^2 + 1) \left(\lambda^2 H_{c_{2,0}} + \frac{1}{2} S2 ec_{1,0}^2 - \frac{7}{2} \lambda^2 H_{c_{2,0}} \right) M_{2,0}(t) - 6 \lambda^2 \left(K^6 \left((\lambda I \right. \right. \\
& - 1) \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \right) \lambda^2 + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} \right. \right. \\
& + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0}) \lambda^2 - 20 G_{2,0} - 8 F_{2,0} - \frac{4}{3} J_{2,0} + E_{2,0} + \frac{1}{3} C_{2,0}) K^{10} \\
& - 5 \lambda I \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \right) \lambda^2 + \left(\frac{7}{3} F_{2,0} + 3 G_{2,0} \right. \right. \\
& + H_{2,0} + \frac{1}{3} J_{2,0}) \lambda^2 + E_{2,0} - \frac{4}{3} G_{2,0} - \frac{40}{3} H_{2,0} - 4 J_{2,0} + \frac{1}{3} C_{2,0}) K^2 + 4 \left(\lambda I \right. \\
& + \frac{1}{4} \left. \right) \left(\left(\frac{1}{3} A_{2,0} - \frac{2}{3} F_{2,0} + \frac{1}{3} B_{2,0} - \frac{4}{3} G_{2,0} + \frac{2}{3} H_{2,0} \right) \lambda^2 + \left(\frac{13}{3} F_{2,0} - \frac{1}{3} J_{2,0} \right. \right. \\
& + \frac{23}{3} G_{2,0} - \frac{7}{3} H_{2,0}) \lambda^2 + \frac{1}{3} C_{2,0} + E_{2,0} + 2 F_{2,0} + \frac{10}{3} G_{2,0} - \frac{50}{3} H_{2,0} - \frac{14}{3} J_{2,0} \left. \right) \\
& \left. \right) L_{c_{2,0}}(t) - \frac{10}{3} \left(\left(\left(-\frac{1}{10} B_{2,0} + \frac{2}{5} G_{2,0} \right) \lambda^2 + \left(\frac{7}{10} B_{2,0} + G_{2,0} \right) \lambda I \right. \right. \\
& - \frac{23}{10} G_{2,0}) (\lambda^2 - 4) K^{16} + \left(\left(-\frac{1}{10} A_{2,0} + \frac{1}{5} F_{2,0} \right) \lambda^2 + \left(\left(\frac{1}{2} A_{2,0} + \frac{3}{5} F_{2,0} \right) \lambda I \right. \right. \\
& - \frac{21}{10} F_{2,0} + \frac{2}{5} A_{2,0} - \frac{1}{2} B_{2,0} + 2 G_{2,0}) \lambda^2 + \left(-2 A_{2,0} + \frac{7}{2} B_{2,0} - \frac{12}{5} F_{2,0} \right. \\
& - 2 G_{2,0}) \lambda I - \frac{9}{2} G_{2,0} + \frac{26}{5} F_{2,0}) K^{14} + \left(\left(\frac{1}{10} J_{2,0} + F_{2,0} - \frac{7}{5} J_{2,0} \lambda I \right. \right. \\
& - \frac{1}{2} A_{2,0}) \lambda^2 + \left(\frac{5}{2} A_{2,0} + \frac{28}{5} J_{2,0} \right) \lambda I - \frac{7}{2} F_{2,0} - \frac{2}{5} J_{2,0}) K^{12} + \left(-\frac{1}{5} \lambda^2 H_{2,0} \right. \\
& - 5 H_{2,0} \left(\lambda I - \frac{3}{10} \right) \lambda^2 + (-6 J_{2,0} + 20 H_{2,0}) \lambda I - \frac{1}{2} J_{2,0} - \frac{14}{5} H_{2,0}) K^{10}
\end{aligned}$$

$$\begin{aligned}
& -20 H_{2,0} \left(\frac{3}{40} + \lambda l + \frac{1}{20} \lambda 2 \right) K^8 + 6 \left(\left(-\frac{1}{15} G_{2,0} + \frac{1}{60} B_{2,0} \right) \lambda 2 + \left(G_{2,0} \right. \right. \\
& \left. \left. - \frac{7}{60} B_{2,0} \right) \lambda l + \frac{23}{60} G_{2,0} \right) (\lambda 2 + 1) K^6 + \frac{12}{5} (\lambda 2 + 1) \left(\left(-\frac{1}{12} F_{2,0} + \frac{1}{24} A_{2,0} \right) \lambda 2 \right. \\
& \left. + \left(F_{2,0} - \frac{5}{24} A_{2,0} \right) \lambda l + \frac{13}{24} F_{2,0} \right) K^4 + \frac{2}{5} (\lambda 2 + 1) \left(\lambda l - \frac{1}{4} \right) J_{2,0} K^2 \\
& \left. + \frac{1}{5} H_{2,0} \left(\lambda 2 - \frac{7}{2} \right) (\lambda 2 + 1) \right) M_{c_{2,0}(t)} \bigg) \bigg/ (\lambda 2 (K - 1)^2 ((\lambda 2 - 1) (\lambda l - 1) K^{12} \\
& + 2 (\lambda 2 - 1) (\lambda l - 1) K^{10} + 3 (\lambda 2 - 1) (\lambda l - 1) K^8 + (12 \lambda l - 3 \lambda 2) K^6 - 3 (\lambda 2 \\
& + 1) (\lambda l + 1) K^4 - 2 (\lambda 2 + 1) (\lambda l + 1) K^2 - (\lambda 2 + 1) (\lambda l + 1) (K + 1)^2) :
\end{aligned}$$

