**Table. IV:** The inter−atomic distances (Å) and angles (°) selected at room temperature for the monoclinic compositions in Sr2Mn1-xNixTeO6 (x = 0.25, 0.5 and 0.75) series.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Compositions | x = 0.25 | x=0.5 | x=0.75 | |
| Octahedra site: (2a)  Mn1/Ni1/Te1 – O1  Mn1/Ni1/Te1 – O2  Mn1/Ni1/Te – O3  Average distance  Predicted distance | 2.06(2)  2.06(6)  2.07(6)  2.06(6)  2.00 | 2.09(6)  2.12(6)  1.98(6)  2.07  2.02 | 2.19(6)  1.94(3)  -  2.07  2.04 | |
| Octahedra site: (2b)  Mn2/Ni2/Te2 – O1  Mn2/Ni2/Te2 – O2  Mn2/Ni2/Te2 – O3  Average distance  Predicted distance | 1.97(2)  1.93(5)  1.99(5)  1.97  1.95 | 1.96(6)  1.87(6)  2.08(6)  1.96  1.94 | 1.93(6)  1.99(3)  -  1.96  1.92 | |
| Internal angles/°  O1 – Mn1/Ni1/Te1 – O2  O1 – Mn1/Ni1/Te1 – O3  O2 – Mn1/Ni1/Te1 – O3  O2 – Mn1/Ni1/Te1 – O2 | 91(3)  95(3)  105(5)  - | 104(5)  102(5)  93(4)  - | 103(4)  -  -  94(2) | |
| Internal angles/°  O1 – Mn2/Ni2/Te2 – O2  O1 – Mn2/Ni2/Te2 – O3  O2 – Mn2/Ni2/Te2 – O3  O2 – Mn2/Ni2/Te2 – O2 | 94(3)  92(3)  104(3)  - | 101(5)  101(5)  90(4)  - | 102(4)  -  -  93(2) | |
| External angles/°  Mn1/Ni1 – O1 – Te2  Mn1/Ni1 – O2 – Te2  Mn1/Ni1 – O3 – Te2 | 171.4(10)  153(2)  167(2) | 160(2)  163(2)  139(3) | 155(2)  171.1(13)  - | |
| SrO12 icosahedron  Sr - O1  Sr – O1  Sr – O1  Sr – O1  Sr – O2  Sr – O2  Sr – O2  Sr – O2  Sr – O3  Sr – O3  Sr – O3  Sr – O3  Average distance  Predicted distance | 3.26(2)  2.41(2)  2.84(3)  2.94(3)  3.23(3)  2.61(3)  3.19(3)  2.36(3)  2.89(4)  2.83(4)  2.85(4)  2.71(4)  2.60  2.9 | 3.10(5)  2.55(5)  2.93(3)  2.78(3)  2.60(6)  2.84(6)  2.85(6)  2.98(5)  3.30(6)  2.85(6)  2.91(6)  2.28(6)  2.8  2.9 | SrO12 icosahedron  Sr - O1  Sr – O1  Sr – O1 x 2  Sr – O2 x 2  Sr – O2 x 2  Sr – O2 x 2  Sr – O2 x 2  Average distance  Predicted distance | 3.18(6)  2.46(6)  2.850(8)  2.66(4)  2.98(4)  2.97(4)  2.65(4)  2.8  2.9 |