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### Depositional changes during the Danian-Selandian transition in Loubieng (France), Zumaia (Spain) and Sidi Nasseur (Tunisia): insights from and limits of rock magnetism

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**Supplementary Material**

|  |  |  |
| --- | --- | --- |
| Sample | Depth (m) | δ13Corg (‰VPDB) |
| LO-07-3a | -0.37 | -26.3 |
| LO-07-5 | 1.94 | -26.7 |
| LO-07-6 | 2.62 | -27.1 |
| LO-07-8 | 5.84 | -27.1 |
| LO-07-9 | 6.79 | -27.1 |
| LO-07-10 | 8.95 | -26.8 |
| LO-07-11a | 9.28 | -27.2 |
| LO-07-12 | 9.94 | -26.9 |
| LO-07-13b | 11.59 | -27.5 |
| LO-07-14 | 11.89 | -27.4 |
| LO-07-15 | 12.24 | -27.0 |
| LO-07-16 | 12.58 | -27.4 |
| LO-07-17 | 12.89 | -26.8 |
| LO-07-18 | 13.50 | -27.0 |
| LO-07-19 | 13.74 | -27.1 |
| LO-07-20 | 14.72 | -26.4 |
| LO-07-21 | 15.64 | -27.1 |
| LO-07-22 | 15.99 | -26.8 |
| LO-07-23 | 16.23 | -26.8 |
| LO-07-24 | 16.58 | -25.2 |
| LO-07-25b | 17.73 | -26.1 |
| LO-07-26 | 18.08 | -26.6 |
| LO-07-27a | 18.41 | -25.8 |
| LO-07-1bis | 19.41 | -26.7 |
| LO-07-28 | 19.71 | -26.4 |
| LO-07-2bis | 19.82 | -26.6 |
| LO-07-3bis | 19.96 | -27.2 |
| LO-07-5bis | 20.91 | -26.0 |
| LO-07-8bis | 22.22 | -26.4 |
| LO-07-29b | 26.87 | -25.6 |
| LO-07-30 | 29.06 | -25.3 |
| LO-07-31 | 31.00 | -26.1 |
| LO-07-32a | 31.50 | -25.9 |

Table S1: δ13Corg values for LO samples (Loubieng batch B1)

|  |  |  |
| --- | --- | --- |
| Sample | Depth (m) | δ13Corg (‰VPDB) |
| 14-LOU-035 | 3.50 | -26.1 |
| 14-LOU-050 | 5.00 | -26.4 |
| 14-LOU-064 | 6.30 | -25.9 |
| 14-LOU-072 | 7.10 | -26.7 |
| 14-LOU-075 | 7.40 | -26.0 |
| 14-LOU-078 | 7.70 | -27.5 |
| 14-LOU-081 | 8.00 | -25.8 |
| 14-LOU-084 | 8.30 | -25.5 |
| 14-LOU-087 | 8.60 | -25.3 |
| 14-LOU-089 | 8.80 | -25.9 |
| 14-LOU-092 | 9.10 | -26.4 |
| 14-LOU-095 | 9.47 | -25.7 |
| 14-LOU-098 | 9.77 | -25.7 |
| 14-LOU-111 | 11.07 | -25.6 |
| 14-LOU-114 | 11.37 | -25.5 |

Table S2: δ13Corg values for LOU samples (Loubieng batch B2)

|  |  |  |
| --- | --- | --- |
| Sample | Depth (m) | δ13Corg (‰VPDB) |
| 08ZM-EX28 | -19.80 | -24.2 |
| 08ZM-EX30 | -18.10 | -25.6 |
| 08ZM-EX31 | -16.50 | -24.8 |
| 10ZM-D00 | -14.60 | -23.7 |
| 10ZM-D01 | -14.00 | -24.0 |
| 10ZM-D04 | -13.60 | -25.7 |
| 10ZM-D06 | -13.20 | -24.8 |
| 10ZM-D08 | -12.70 | -25.5 |
| 08ZM-EX35 | -12.20 | -25.8 |
| 10ZM-D11 | -11.60 | -26.0 |
| 10ZM-D13 | -11.15 | -26.1 |
| 10ZM-D15 | -10.60 | -25.5 |
| 10ZM-D16 | -10.20 | -26.4 |
| 10ZM-D17 | -10.00 | -25.3 |
| 10ZM-D19 | -9.70 | -25.5 |
| 10ZM-D20 | -9.55 | -25.1 |
| 10ZM-D21 | -9.40 | -25.3 |
| 10ZM-D22 | -9.30 | -25.5 |
| 10ZM-D23 | -9.10 | -25.8 |
| 10ZM-D24 | -8.95 | -25.2 |
| 10ZM-D25 | -8.80 | -25.9 |
| 10ZM-D26 | -8.60 | -24.7 |
| 10ZM-D28 | -8.30 | -24.9 |
| 10ZM-D32 | -7.65 | -24.6 |
| 10ZM-D33 | -7.50 | -25.1 |
| 10ZM-D34 | -7.30 | -25.2 |
| 10ZM-D36 | -6.90 | -25.7 |
| 10ZM-D40 | -6.40 | -24.7 |
| 10ZM-D41 | -5.60 | -25.3 |
| 10ZM-D42 | -5.40 | -25.8 |
| 10ZM-D43 | -5.30 | -25.2 |
| 10ZM-D44 | -5.20 | -25.2 |
| 10ZM-D47 | -4.80 | -25.0 |
| 08ZM-D01 | -4.30 | -26.2 |
| 08ZM-D05 INF | -3.51 | -25.8 |

Table S3: δ13Corg values for Zumaia samples

|  |  |  |
| --- | --- | --- |
| Sample | Depth (m) | δ13Corg (‰VPDB) |
| 08ZM-D10 | -2.81 | -25.9 |
| 08ZM-EX41 | -2.35 | -25.6 |
| 08ZM-D15 | -1.99 | -26.1 |
| 08ZM-D20 | -1.21 | -26.3 |
| 08ZM-D21 | -1.08 | -25.7 |
| 08ZM-D22 | -0.92 | -25.5 |
| 08ZM-D23 | -0.80 | -25.7 |
| 08ZM-D24 | -0.52 | -25.9 |
| 08ZM-D25 | -0.40 | -25.9 |
| 08ZM-D26 | -0.28 | -25.8 |
| 08ZM-D27 | -0.10 | -25.5 |
| 11ZM-X1 | 0.00 | -24.8 |
| 11ZM-X4 | 0.65 | -25.4 |
| 11ZM-X5 | 0.95 | -25.3 |
| 11ZM-X6 | 1.60 | -25.2 |
| 11ZM-X7 | 2.10 | -24.9 |
| 11ZM-X8 | 2.20 | -24.8 |
| 11ZM-X9 | 2.70 | -24.8 |
| 11ZM-X10 | 2.90 | -24.6 |
| 11ZM-X11 | 3.50 | -24.8 |
| 11ZM-X12 | 3.90 | -24.8 |
| 11ZM-X13 | 4.35 | -24.8 |
| 11ZM-X16 | 5.65 | -25.0 |
| 11ZM-X17 | 6.05 | -24.9 |
| 08ZM-S03 | 7.52 | -25.7 |
| 08ZM-S04 | 10.30 | -25.6 |
| 08ZM-S05 | 12.25 | -25.3 |
| 08ZM-S06 | 13.97 | -24.7 |
| 08ZM-S09 | 19.20 | -25.7 |
| 08ZM-S10 | 20.25 | -26.5 |
| 08ZM-S14 | 21.47 | -26.9 |

Table S4: δ13Corg values for Zumaia samples (continued)

|  |  |  |
| --- | --- | --- |
| Sample | Depth (m) | δ13Corg (‰VPDB) |
| NSC-30 | 0.00 | -27.8 |
| NSF-(-0.5) | 2.00 | -27.5 |
| NSF-0 | 2.50 | -27.5 |
| NSF-0.5 | 3.00 | -27.4 |
| NSF-1 | 3.50 | -27.4 |
| NSF-1.5 | 4.00 | -27.7 |
| NSF-2 | 4.50 | -27.7 |
| NSF-2.5 | 5.00 | -27.4 |
| NSF-3.05 | 5.55 | -28.1 |
| NSF-3.5 | 6.00 | -27.8 |
| NSF-3.9 | 6.40 | -28.1 |
| NSF-4 | 6.50 | -28.1 |
| NSF-4.5 | 7.00 | -28.4 |
| NSF-4.9 | 7.40 | -28.4 |
| NSF-5 | 7.50 | -28.1 |
| NSF-5.5 | 8.00 | -28.2 |
| NSF-6.1 | 8.60 | -28.4 |
| NSF-6.5 | 9.00 | -28.3 |
| NSF-7 | 9.50 | -28.1 |
| NSF-7.5 | 10.00 | -28.5 |
| NSC-40 | 10.00 | -28.8 |
| NSF-8 | 10.50 | -28.4 |
| NSF-8.5 | 11.00 | -28.4 |
| NSF-8.9 | 11.40 | -28.4 |
| NSF-9.2 | 11.70 | -28.0 |
| 10NSC-1.5 | 11.80 | -28.3 |
| NSF-9.4 | 11.90 | -28.3 |
| NSF-10 | 12.50 | -28.4 |
| NSF-10.5 | 13.00 | -28.8 |
| NSF-11 | 13.50 | -28.6 |
| NSF-11.5 | 14.00 | -28.6 |
| NSF-11.9 | 14.40 | -28.0 |
| NSF-12.3 | 14.80 | -28.3 |
| 10NSC-4.7 | 15.00 | -28.1 |
| NSF-12.75 | 15.25 | -28.1 |
| NSF-13 | 15.50 | -28.3 |
| NSF-13.6 | 16.10 | -28.1 |
| NSF-14 | 16.50 | -27.7 |
| NSF-14.4 | 16.90 | -28.1 |
| 10NSC-6.75 | 17.05 | -28.7 |
| NSF-14.65 | 17.15 | -28.4 |

Table S5: δ13Corg values for Sidi Nasseur samples

|  |  |  |
| --- | --- | --- |
| Sample | Depth (m) | δ13Corg (‰VPDB) |
| NSF-15.6 | 18.10 | -27.9 |
| NSF-15.9 | 18.40 | -27.9 |
| 10NSC-8.25 | 18.55 | -28.1 |
| NSF-16.1 | 18.60 | -28.1 |
| NSF-16.5 | 19.00 | -27.1 |
| 10NSC-10.1 | 20.40 | -28.0 |
| 10NSC-12 | 22.30 | -28.1 |
| 10NSC-13.5 | 23.80 | -28.0 |
| 10NSC-15 | 25.30 | -28.2 |
| 10NSC-15.5 | 25.80 | -28.3 |
| 10NSC-15.75 | 26.05 | -28.3 |
| 10NSC-16 | 26.30 | -28.1 |
| 10NSC-16.2 | 26.50 | -28.3 |
| 10NSC-16.5 | 26.80 | -28.1 |
| 10NSC-17 | 27.30 | -28.7 |
| 10NSC-17.25 | 27.55 | -28.6 |
| 10NSC-18.75 | 29.05 | -28.4 |
| 10NSC-20.25 | 30.55 | -27.9 |
| 10NSC-21.75 | 32.05 | -28.1 |
| 10NSC-22.5 | 32.80 | -28.2 |
| 10NSC-24 | 34.30 | -27.7 |
| 08NSI-(-0.25) | 35.55 | -26.9 |
| 08NSI-0 | 35.80 | -26.7 |
| NSC-67 | 37.00 | -28.1 |
| 08NSI-2 | 37.80 | -27.6 |
| 10NSC-28.5 | 38.80 | -27.9 |
| 08NSI-6 | 41.80 | -28.3 |
| 08NSI-8 | 43.80 | -28.3 |
| 08NSI-10 | 45.80 | -28.4 |
| 08NSI-12 | 47.80 | -27.8 |
| 08NSI-14 | 49.80 | -27.3 |
| 08NSI-16 | 51.80 | -27.7 |
| 08NSI-18 | 53.80 | -27.1 |
| 08NSI-20 | 55.80 | -26.9 |
| 08NSI-22 | 57.80 | -26.3 |
| 08NSI-24 | 59.80 | -26.3 |
| 08NSI-26 | 61.80 | -26.8 |
| 08NSI-30 | 65.80 | -26.4 |
| 08NSI-32 | 67.80 | -27.4 |

Table S6: δ13Corg values for Sidi Nasseur samples (continued)