

1 **Appendix ESI Tables**

2 **ESI Table 1**

3 Analytical results and applied conditions for magnetite and ilmenite using EPMA.

4 **ESI Table 2**

5 Analytical results for direct analyses on magnetite, coarse granular ilmenite and
6 reference materials (as unknown) using LA-ICP-MS

7 **ESI Table 3**

8 An example of data reduction applied segmented signals and regression analysis.

9 **ESI Table 4**

10 Results of regression analysis on coarse granular ilmenite exsolutions (n=8).

11 **ESI Table 5**

12 Results of regression analysis on fine ilmenite exsolutions (n=12).

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