## **ELECTRONIC SUPPLEMENTARY INFORMATION**

## Direct determination of Uranium and Thorium in rocks by

## time-of-flight mass spectrometry with pulsed glow discharge

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Fig. S2. UO<sub>2</sub> mass spectrum range, repelling pulse delay 80 µs with Gd, Ta, W and Pb signals present. As one may see, the signals of tungsten and lead oxides were absent in the spectrum, whereas gadolinium and tantalum oxides peaks could be definitely identified



Fig. S3. UO<sub>2</sub> mass spectrum range, repelling pulse delay 120  $\mu$ s; the sample is the same as for fig. S2, In case of lower  $\tau_i$  relative intensities of oxide components were considerably decreased, yet along with intensities of elements of interest



Fig. S4. Model sample 2 mass spectrum range







**Fig. S6.** Pyrochlore mass spectrum range with  $U^+$ ,  $UO^+$ ,  $Th^+$  and  $ThO^+$  components