In this extended version, several modifications have been made comparing to the original version:

1. The results of new samples from three restoration quarries were added, which is presented in all the diagrams (field investigation, thin-section micrographs, XRD, TGA, XRF) and discussion sections.

2. Added more photos of optical microscope observation, one picture for each sample.

3. Rearranged the Table 1 to provide more thorough and detailed information of petrographic features of the limestone thin sections.

4. Remade the XRD diagram, added the curves of each sample.

5. Deleted the table of XRD semi-quantitative analysis, and added a table for TGA calculation (Table 2), because the content of calcite acquired by TGA is more accurate than semi-quantitative analysis in the original paper.

6. Added the diagram showing the relative intensity of all elements by XRF (Figure 8).

7. Remade the diagram of Ca-Sr element alignment (Figure 9), besides adding the plots of new samples, the ratio value was also provided in the corresponded discussion section.

8. Added some content in the results and discussion part, about the influence of particle sizes on TGA curves, potential candidates for small peaks in XRD patterns, the explanation of some samples showing higher XRF intensity of certain elements.

9. The title was changed to “Provenance study of the limestone used in construction and restoration of the Batalha Monastery (Portugal)”