



Figure S1. Graphs of XRD reflexes of $\text{K}_2\text{Ca}(\text{SO}_4)_2 \cdot \text{H}_2\text{O}$ (card PDF 74-2423) (a) and $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ (card PDF 33-311) (c), and XRD data with symbols for peak indexing (b) of cement stone samples obtained in the $\text{CaO-K}_2\text{O-SO}_3\text{-H}_2\text{O}$ system:

● - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ (card PDF 33-311); ◆ - $\text{K}_2\text{Ca}(\text{SO}_4)_2 \cdot \text{H}_2\text{O}$ (card PDF 74-2423)