

## Electronic Supplementary Information

### Influencing the Froth Flotation of $\text{LiAlO}_2$ and Melilite Solid Solution with Ionic Liquids

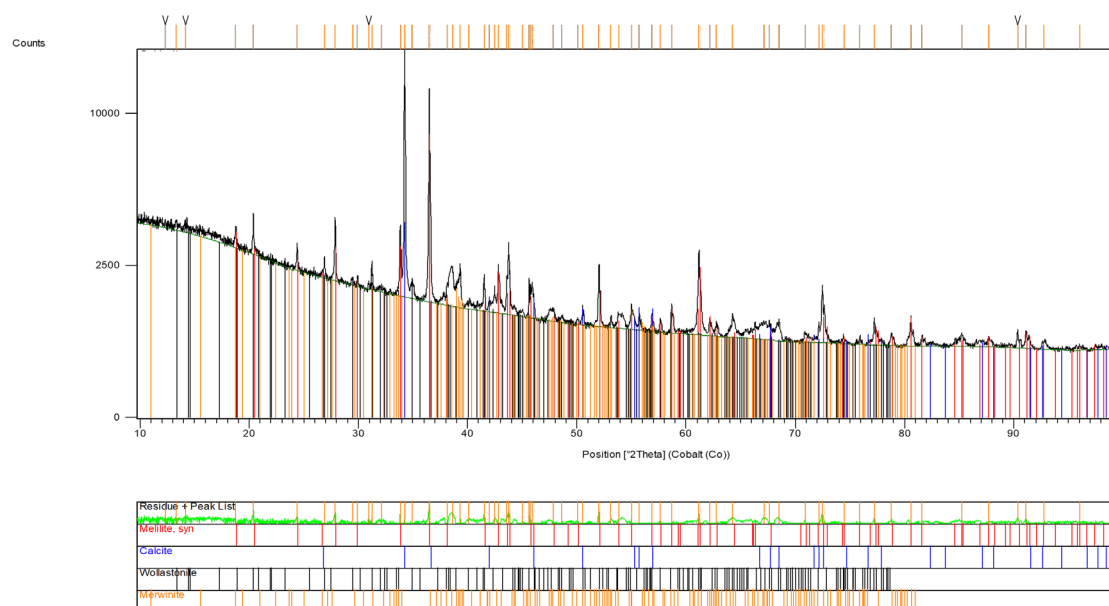
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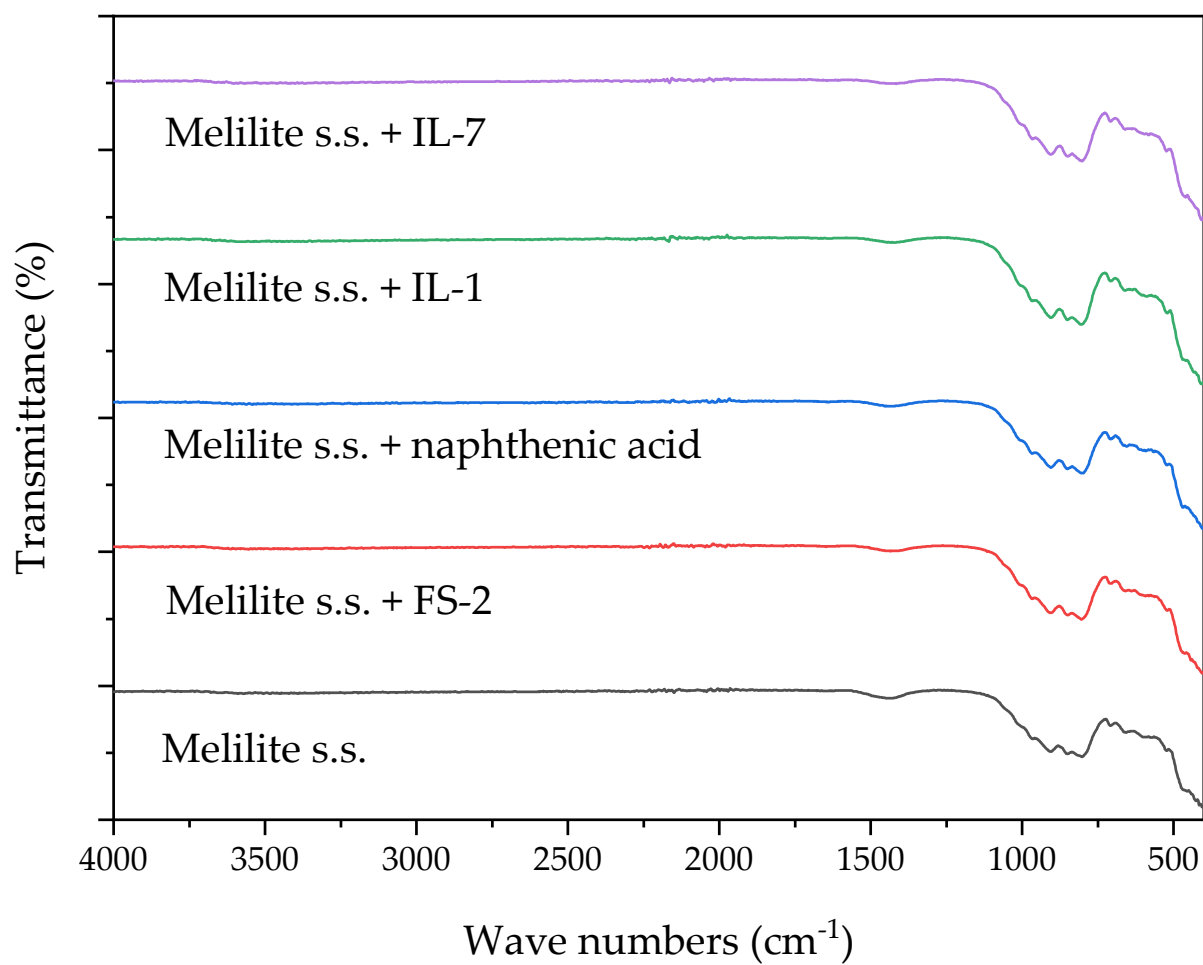
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### XRD analysis of the ore sample

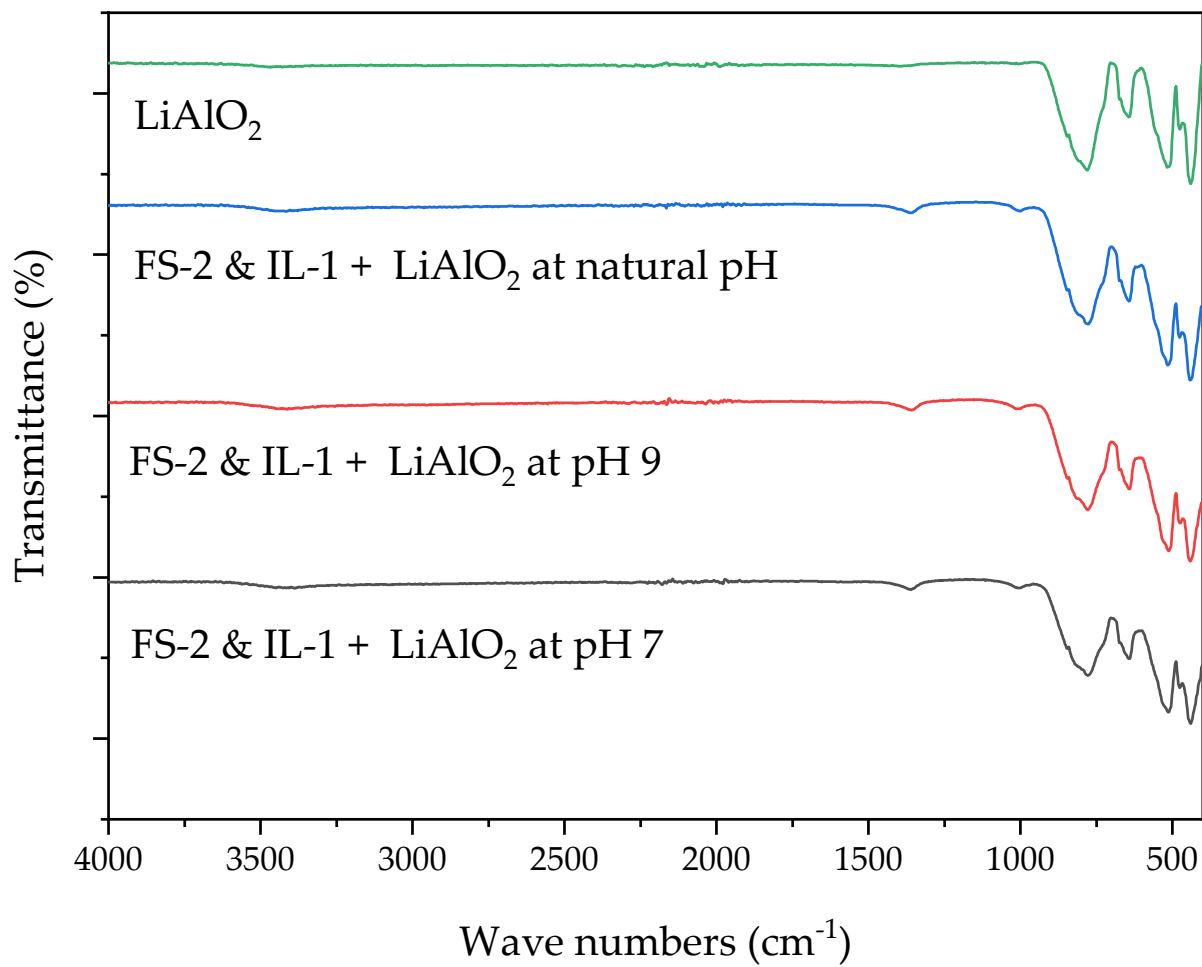
Figure S1 diffraction patterns of the minerals



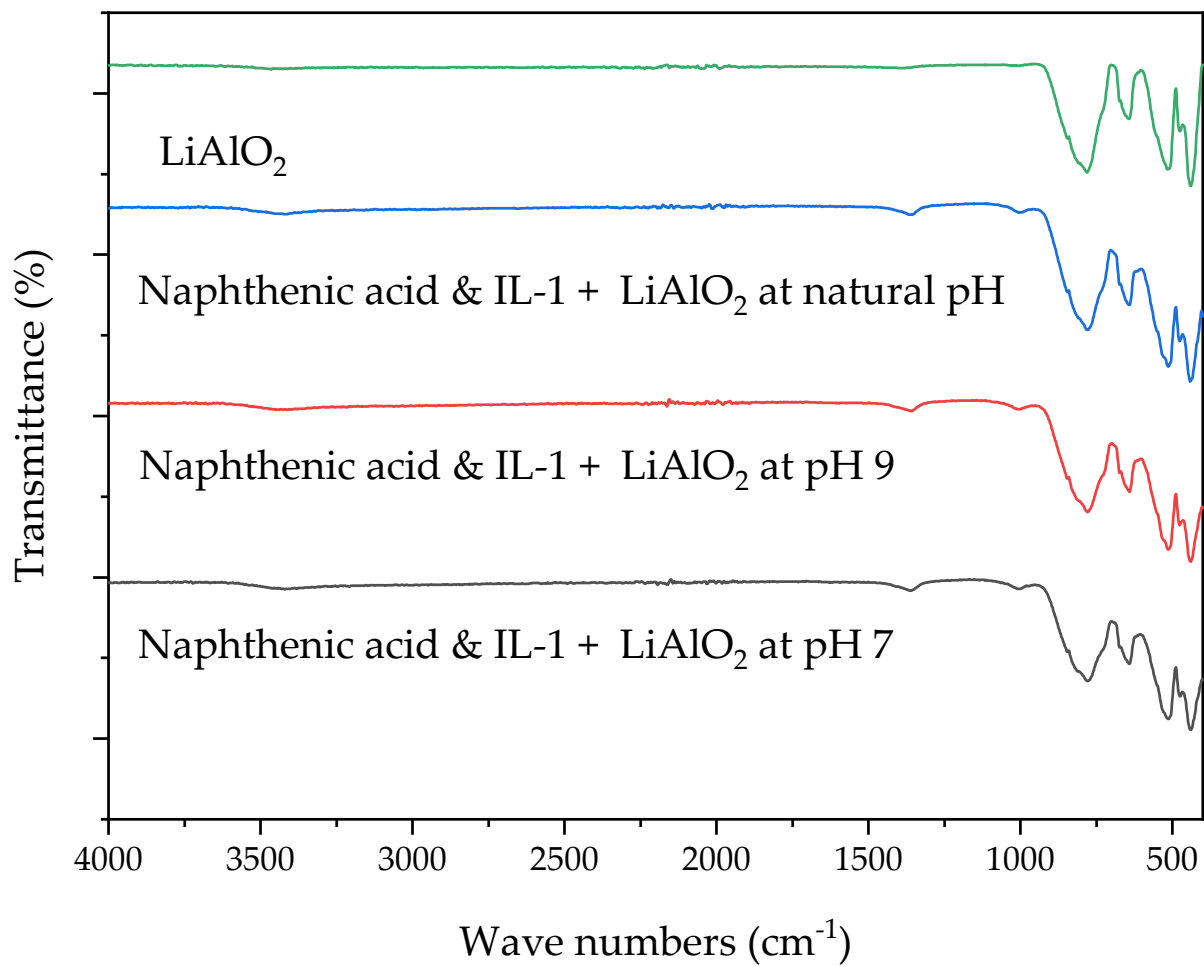
## FTIR Analysis



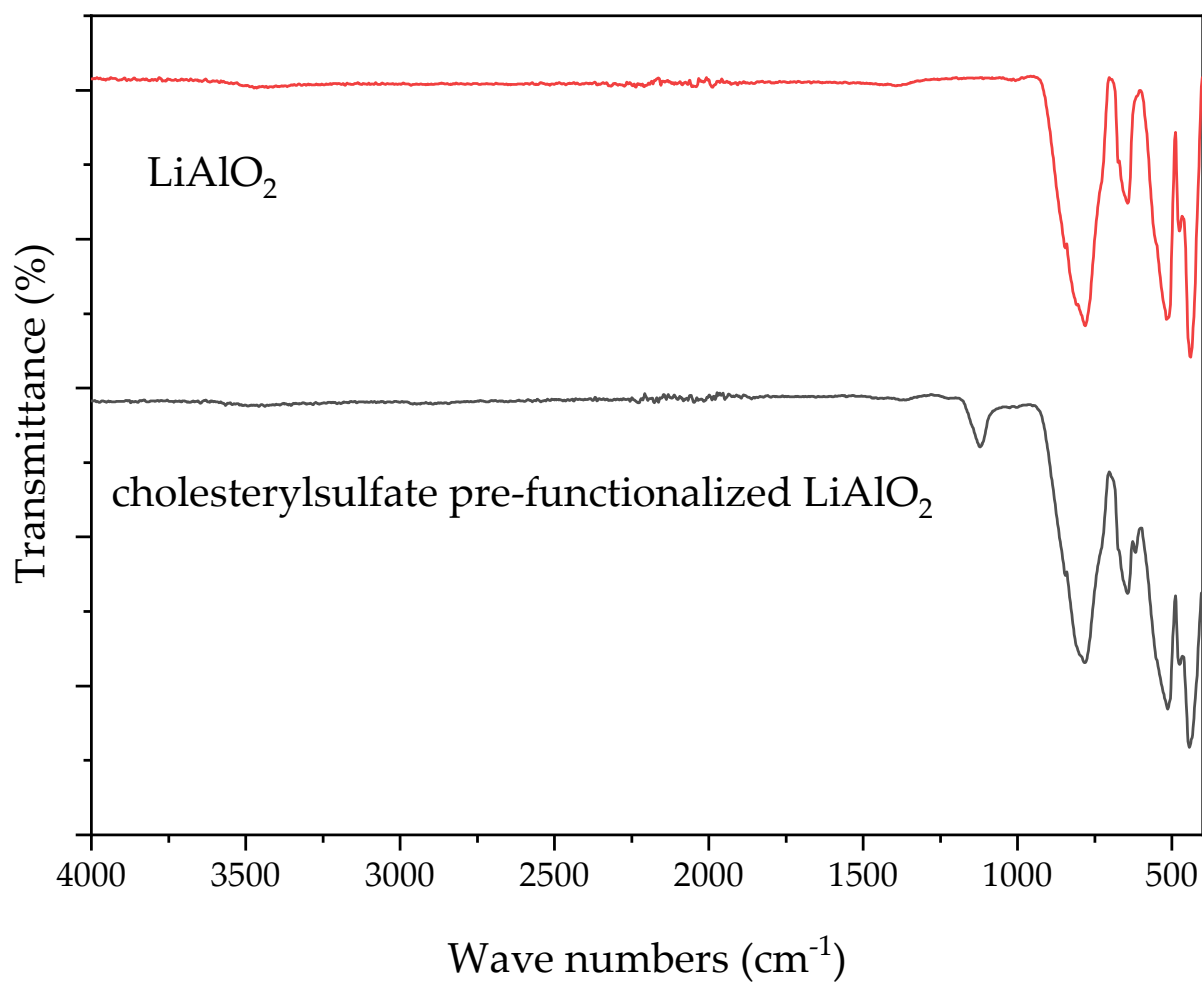
**Figure S2.** FT-IR measurement of melilite s.s. and melilite s.s. treated with different collectors at natural pH



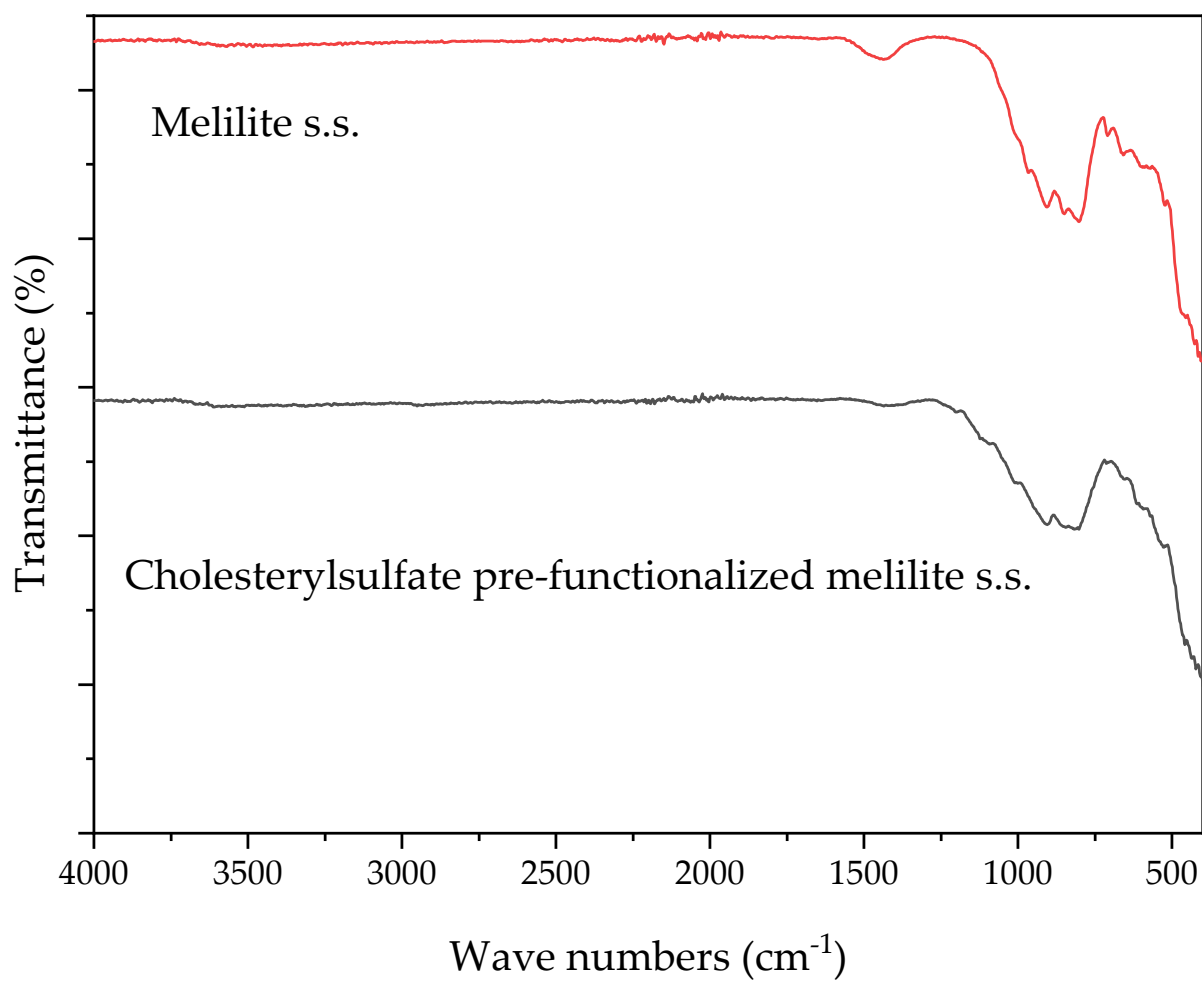
**Figure S3.** FT-IR measurement of LiAlO<sub>2</sub> and LiAlO<sub>2</sub> with mixed collector – FS-2 and IL- 1 at different pH



**Figure S4.** FT-IR measurement of  $\text{LiAlO}_2$  and  $\text{LiAlO}_2$  with mixed collector – Naphthenic acid and IL- 1 at different pH



**Figure S5.** FT-IR measurement of LiAlO<sub>2</sub> and cholesteryl sulfate pre-functionalized LiAlO<sub>2</sub>



**Figure S6.** FT-IR measurement of melilite s.s. and cholesterylsulfate pre-functionalized melilite s.s.