

Supporting Information

Molten Salt Hydrates in the Synthesis of TiO₂ flakes

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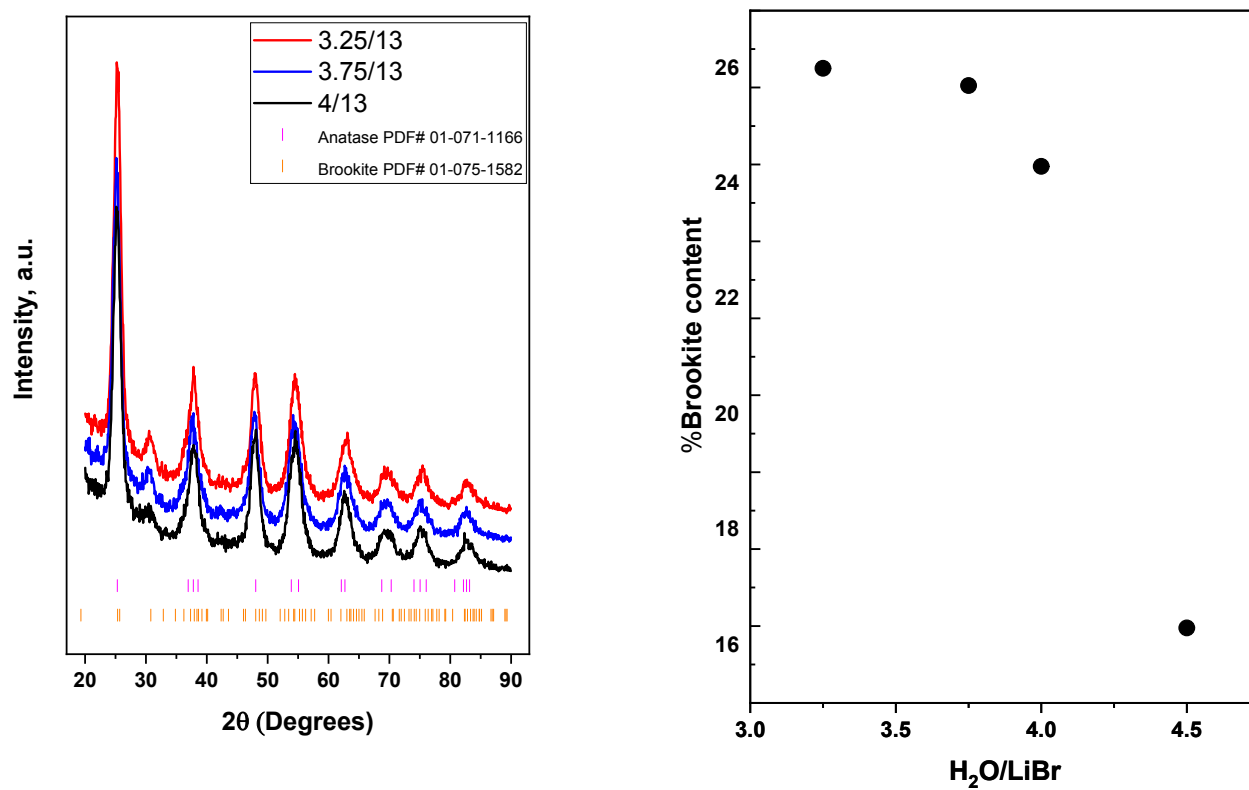


Figure S1: XRD patterns (Left) of synthesized TiO samples. (B) indicates the presence of Brookite crystalline phase. Relevant analysis (Right) of the brookite content

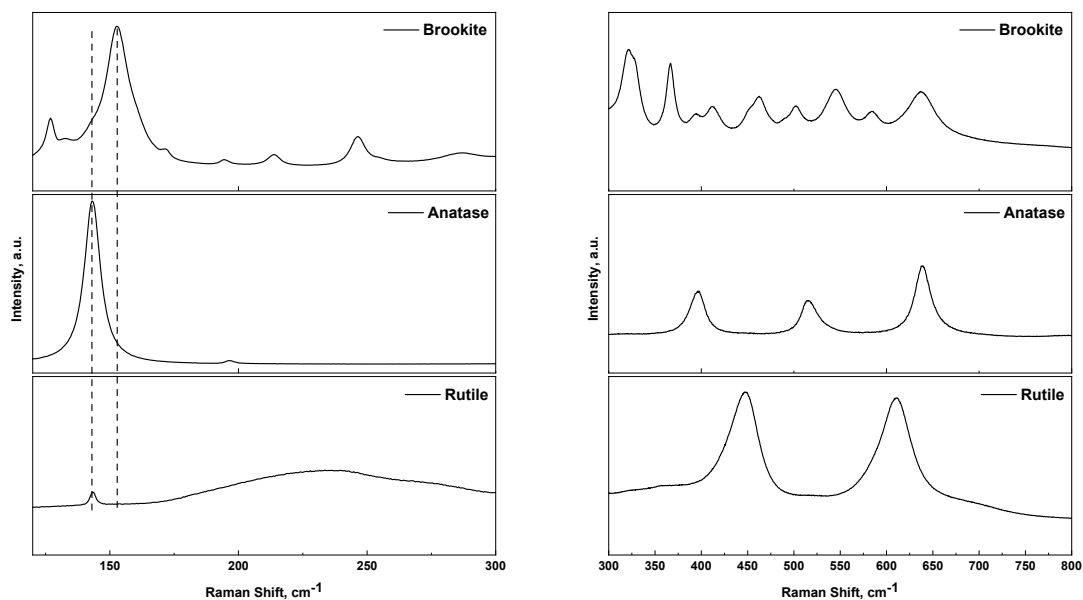


Figure S2: Raman Spectra of commercial highly crystalline Brookite, Anatase and Rutile TiO_2

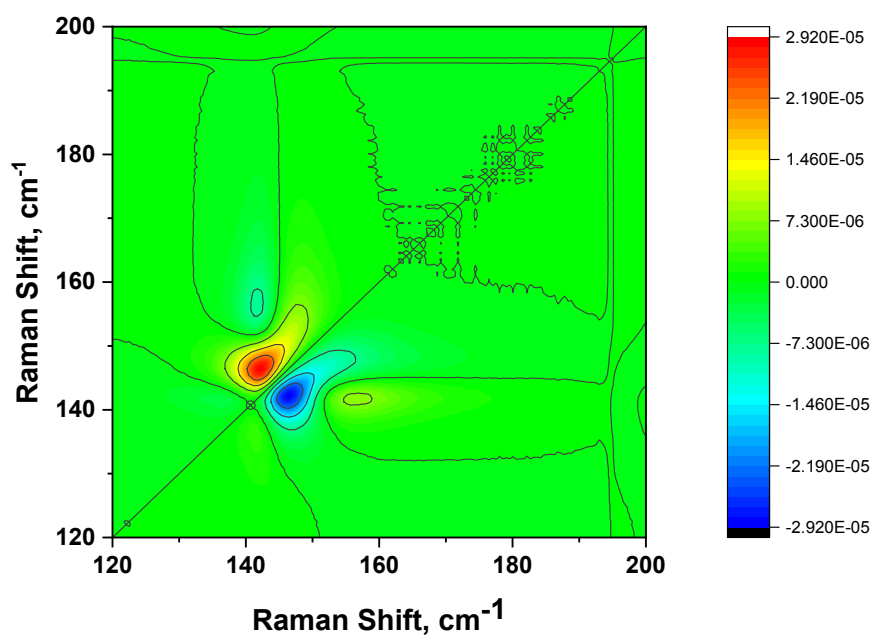


Figure S3: asynchronous 2D-Raman maps of the titanium dioxide synthesized as a function of temperature. The temperature range that used for the generation of the 2D-Raman maps was 25-600°C. The correlation spectra were developed by utilizing the 2D application available in the Origin2019b software.

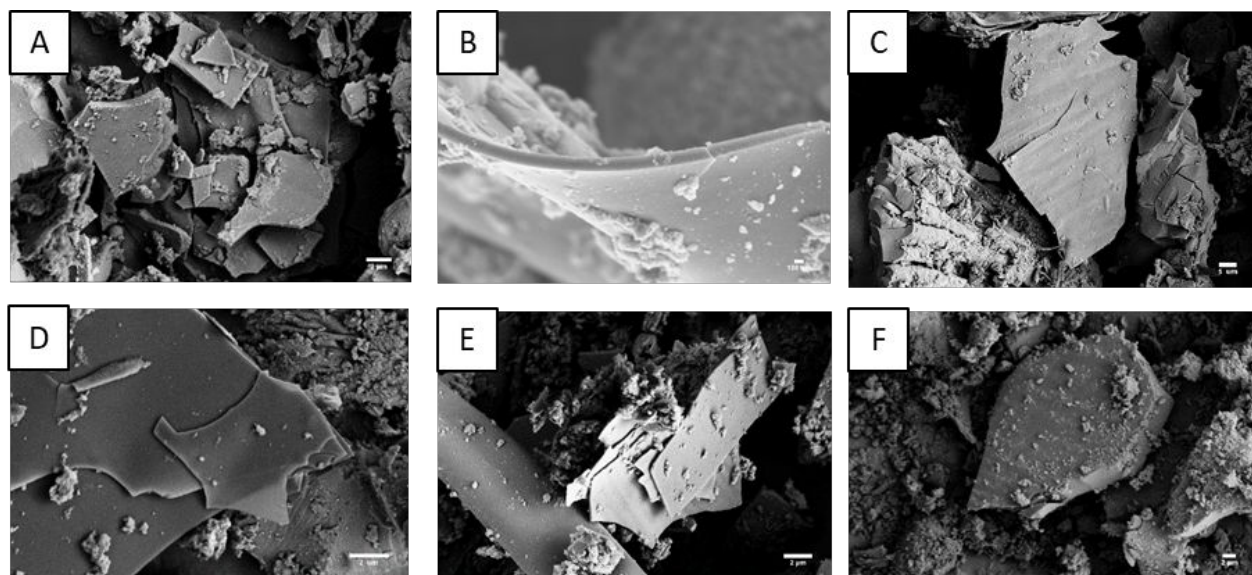


Figure S4: SEM images of TiO_2 synthesized at 35°C , calcined at 400°C with LiBr/TTIP ratio of 13 and $\text{H}_2\text{O}/\text{LiBr}$ of 3.25 (A), 3.75 (B), 4 (C), 4.5 (D), 5 (E), 15 (F)

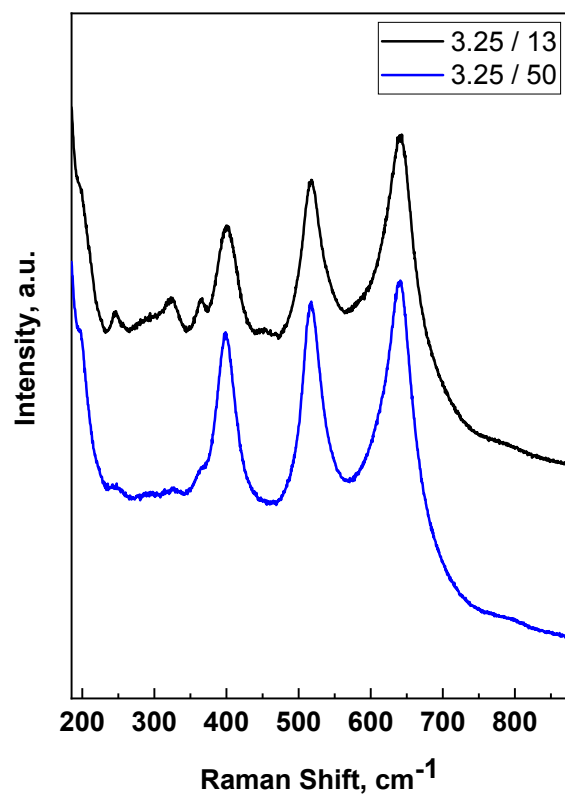


Figure S5: Ex-situ Raman spectra of TiO_2 samples prepared at same $\text{H}_2\text{O}/\text{LiBr}$ molar ratio equal to 3.25 and different LiBr/TTIP molar ratio.

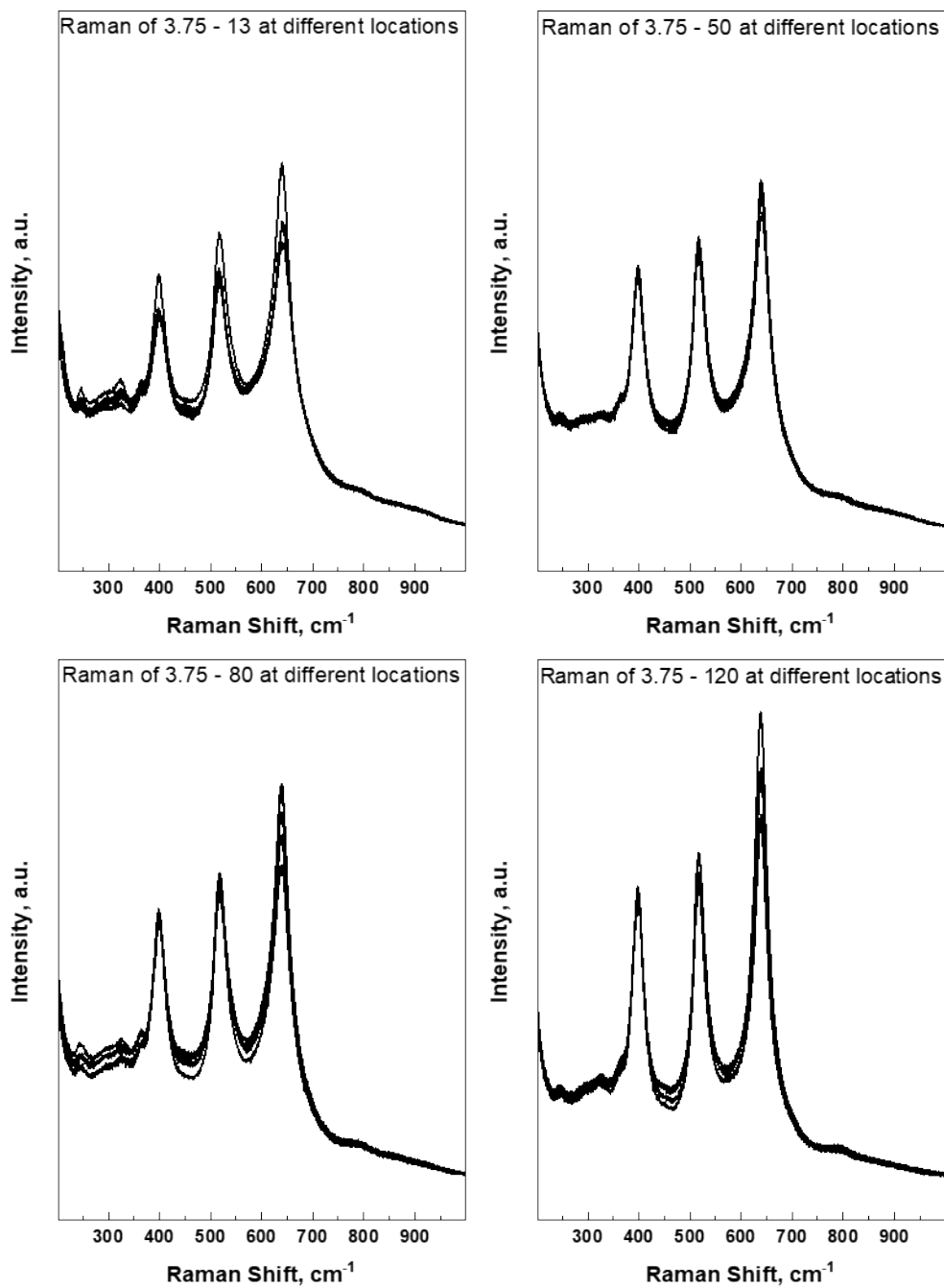


Figure S 6: Raman spectra of synthesized TiO₂ at constant 3.75 H₂O/LiBr ratio and different TTIP/LiBr molar ratio. Each graph shows five different spectra recorded at sampling the synthesized TiO₂ at five distinct locations. Statistical error is presented in Figure 7.

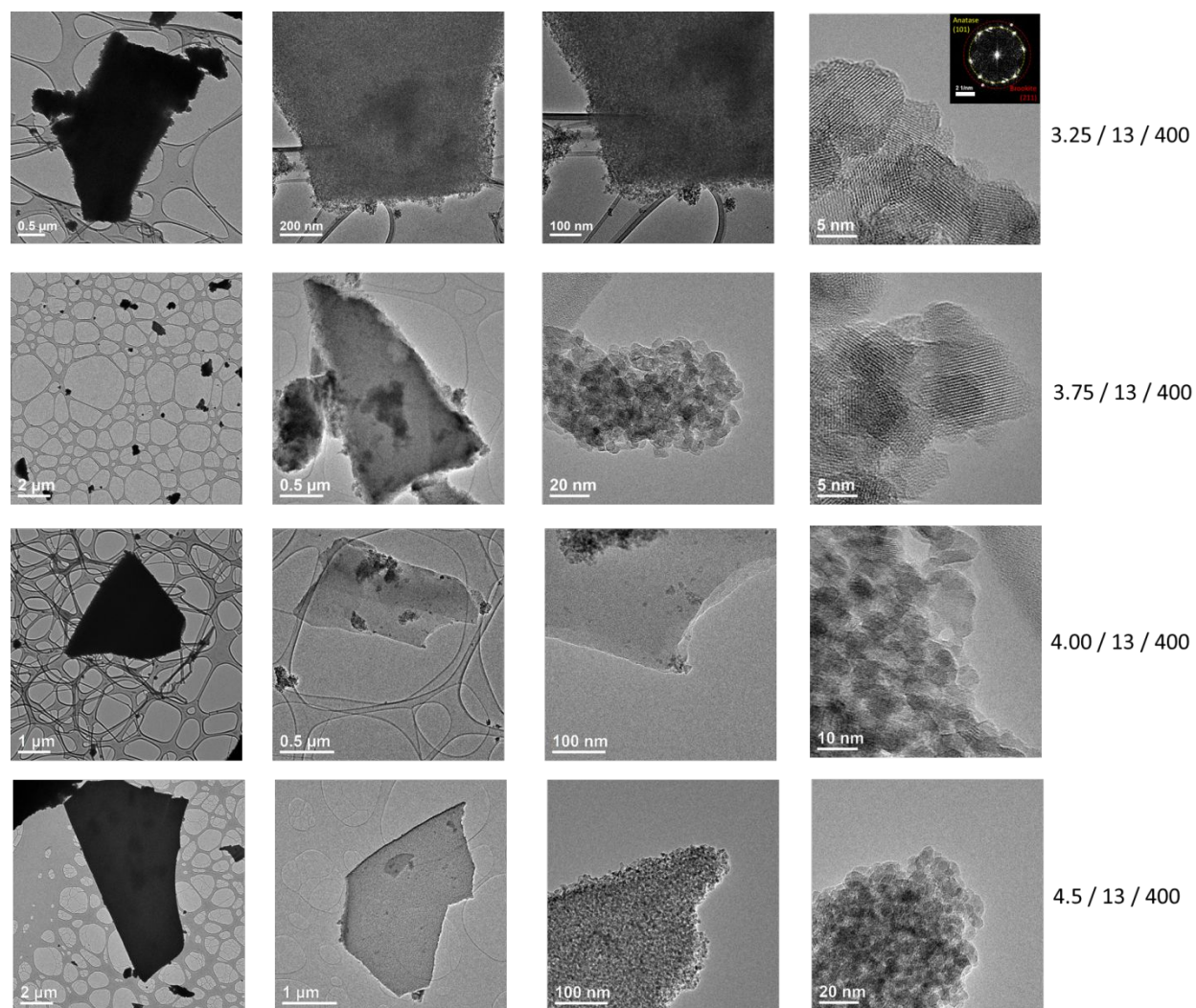


Figure S7: TEM images of all the synthesized TiO_2 flakes at $\text{H}_2\text{O}/\text{LiBr}$ molar ratio equal to 3.25, 3.75, 4 and 4.5 and LiBr/TTIP equal to 13. The material shown here has been calcined at 400°C .