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# Enhancing Febuxostat Solubility Through Cocrystal Formation: Role of Substrate Selection and Amide Coformers

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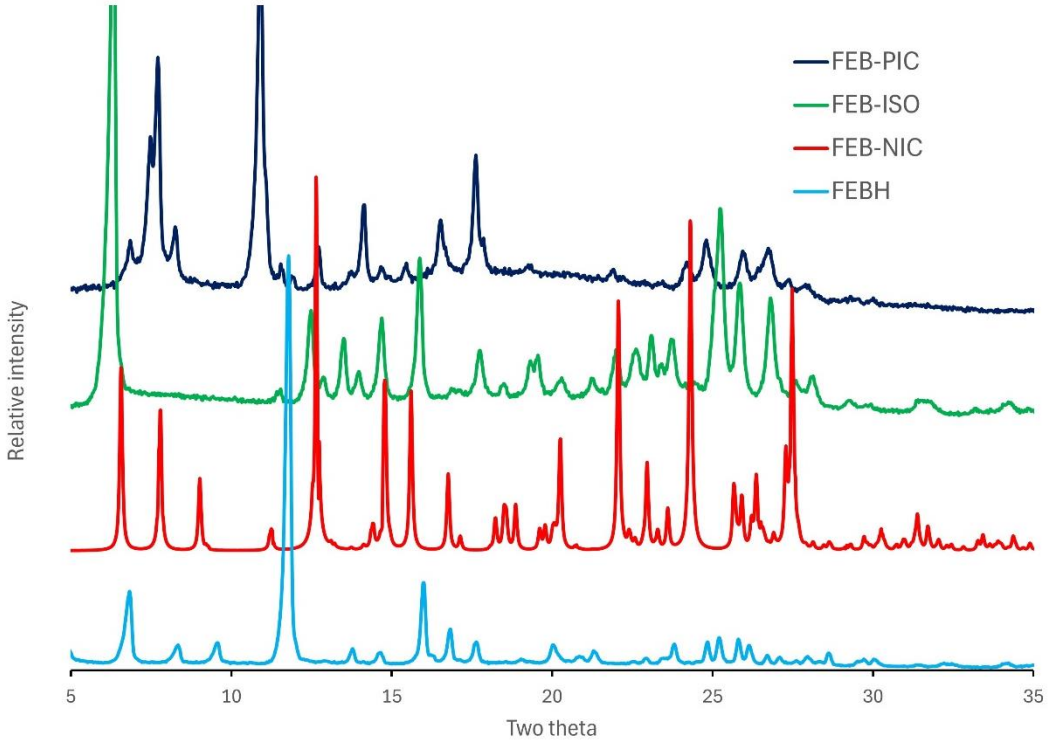



Figure S1. PXRD pattern of FEBH (blue), FEB-NIC cocrystal (red), FEB-ISO cocrystal (green), and FEB-PIC cocrystal (dark blue).

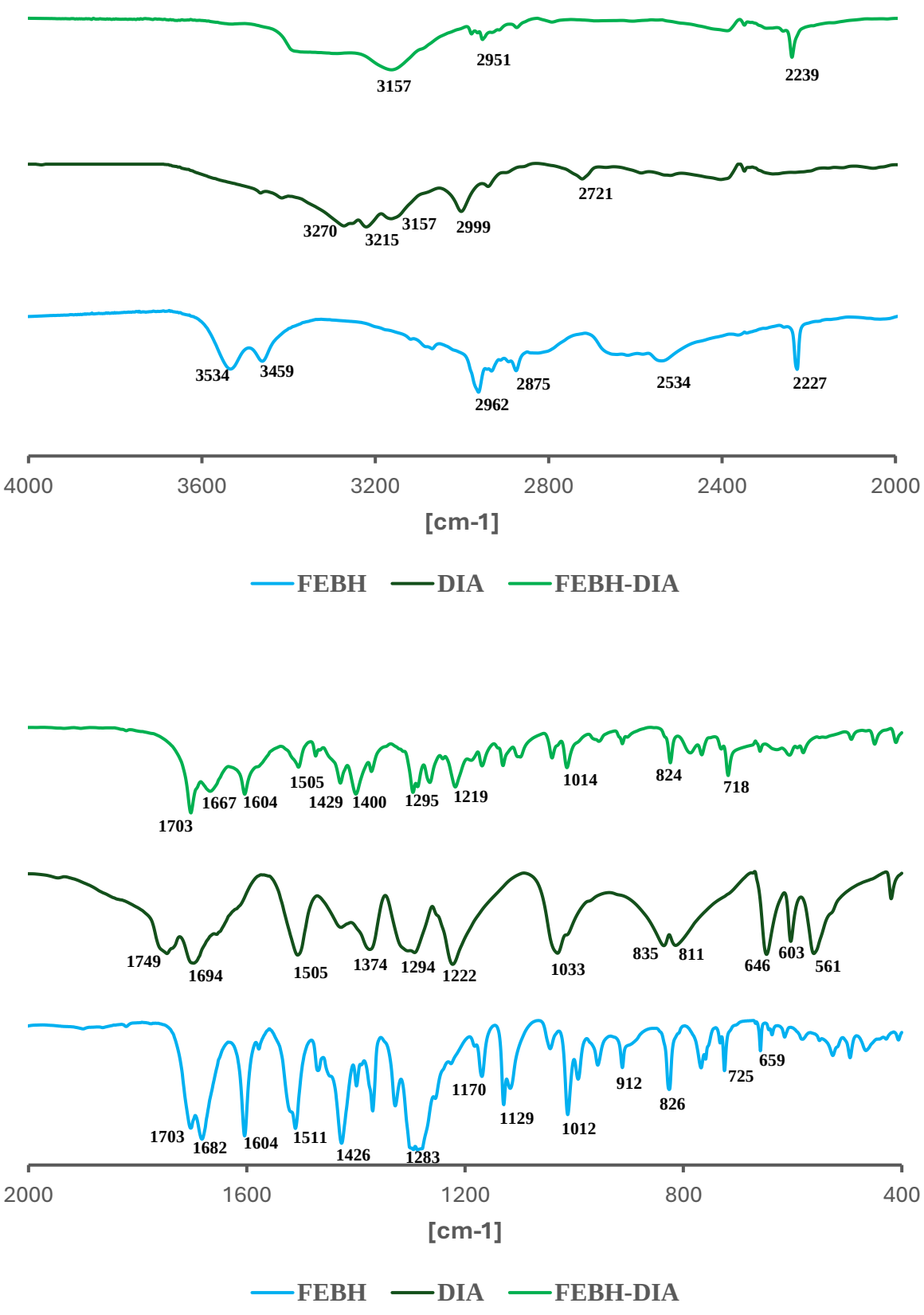



Figure S2. Comparisons of FTIR spectra of FEBH (blue), DIA (dark green) and FEBH-DIA (green).

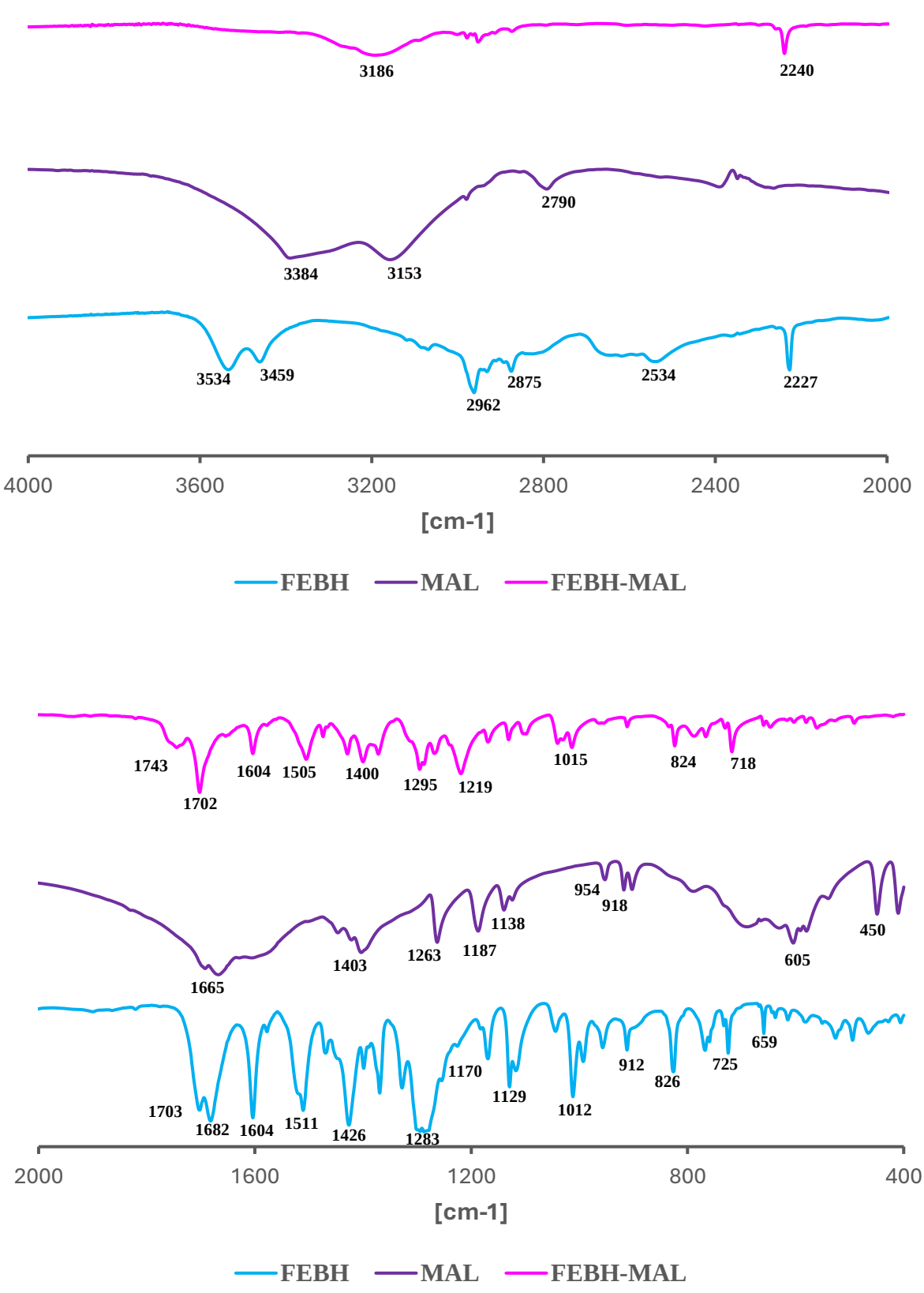



Figure S3. Comparisons of FTIR spectra of FEBH (blue), MAL (violet) and FEBH-MAL (magenta).

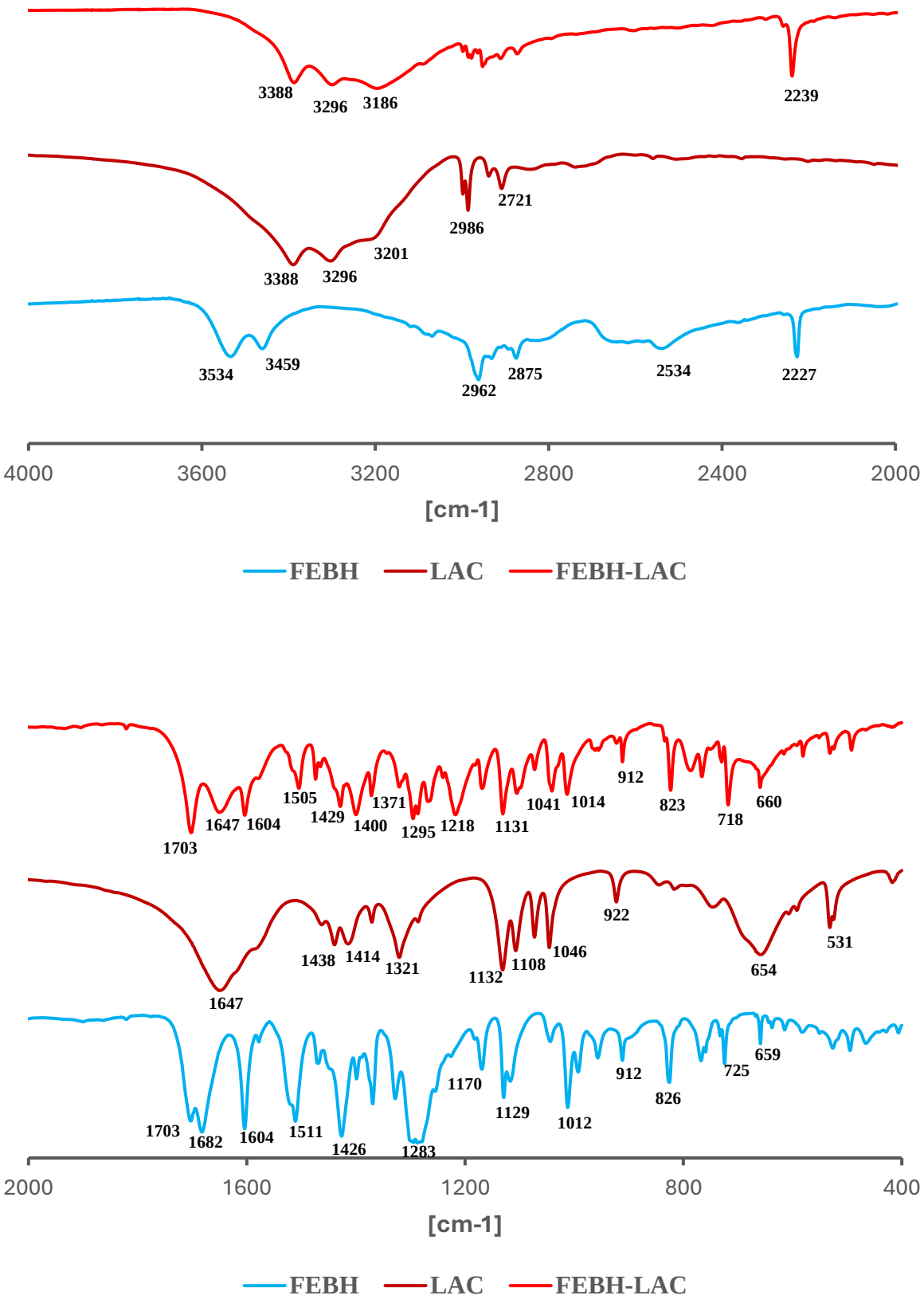



Figure S4. Comparisons of FTIR spectra of FEBH (blue), LAC (dark red) and FEBH-LAC (red).

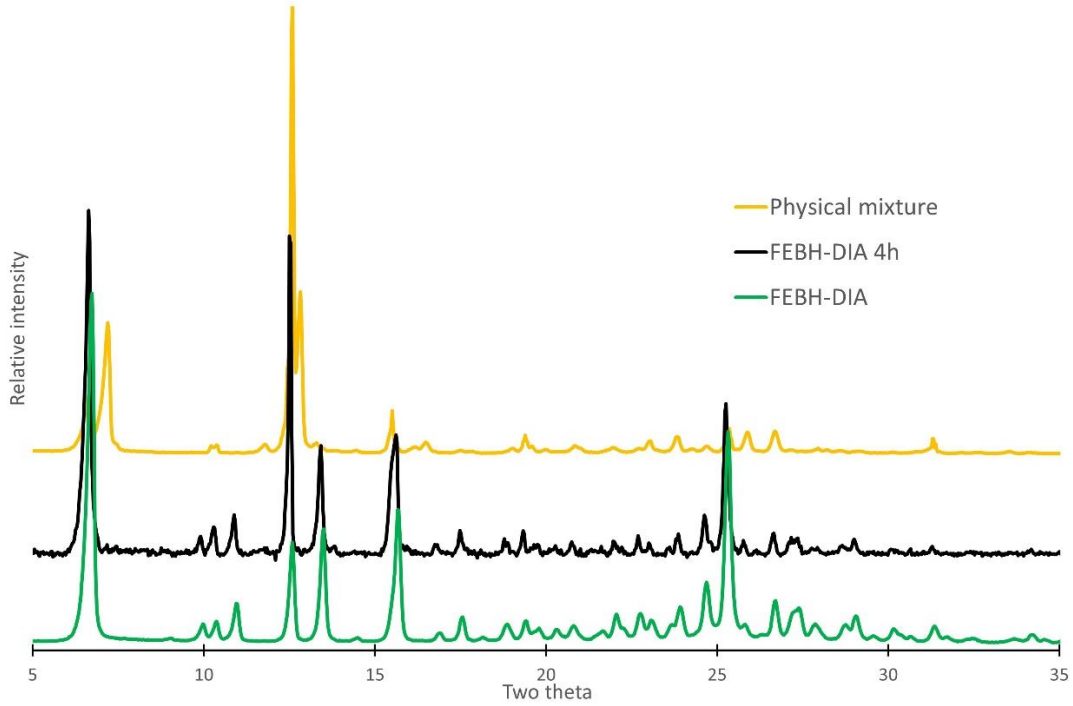



Figure S5. Experimental PXRD of FEBH-DIA cocrystal after milling (green), the PXRD obtained after dissolution for 4 h (black) and the prepared physical mixture (yellow).
The patterns show the stability of the cocrystal.

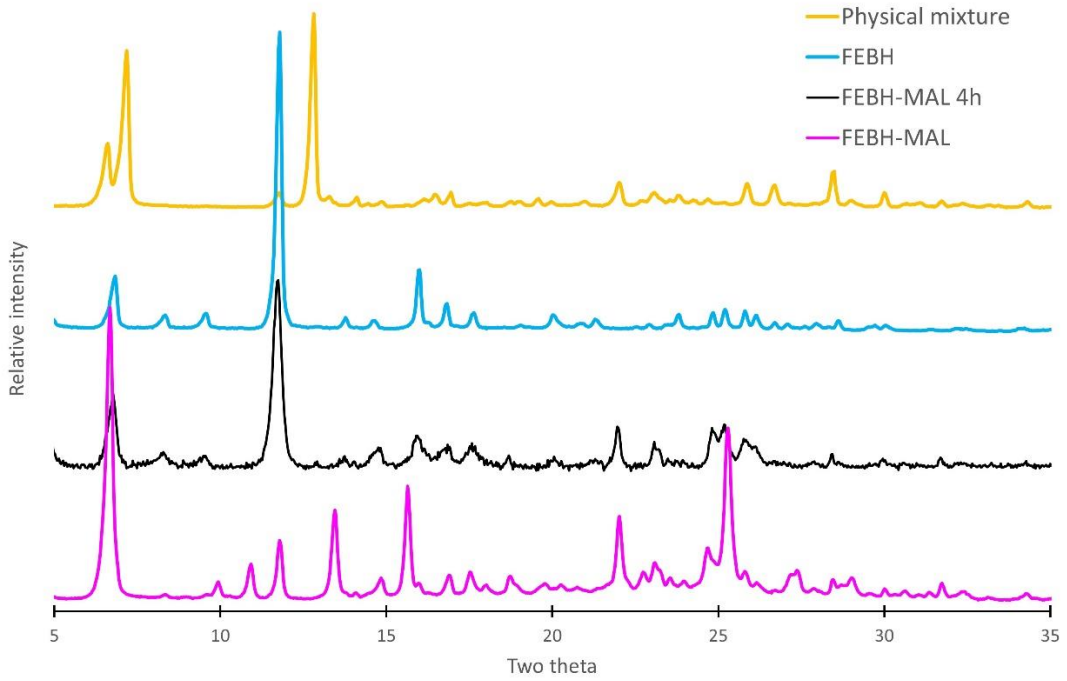



Figure S6. Experimental PXRD of FEBH-MAL cocrystal after milling (magenta), the PXRD obtained after dissolution for 4 h (black) and the prepared physical mixture (yellow). PXRD pattern of FEBH is shown in blue. The patterns show that the cocrystal is unstable during the dissolution process, and a physical mixture is formed.

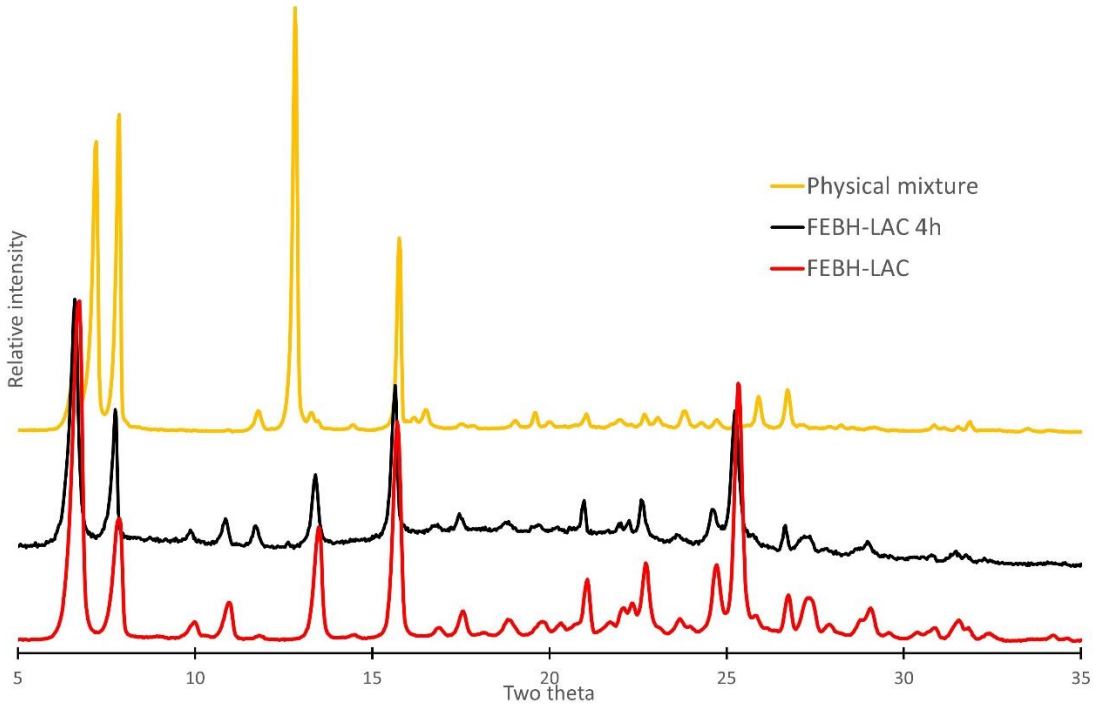



Figure S7. Experimental PXRD of FEBH-LAC cocrystal after milling (red), the PXRD obtained after dissolution for 4 h (black), the prepared physical mixture (yellow).
The patterns show the stability of the cocrystal.

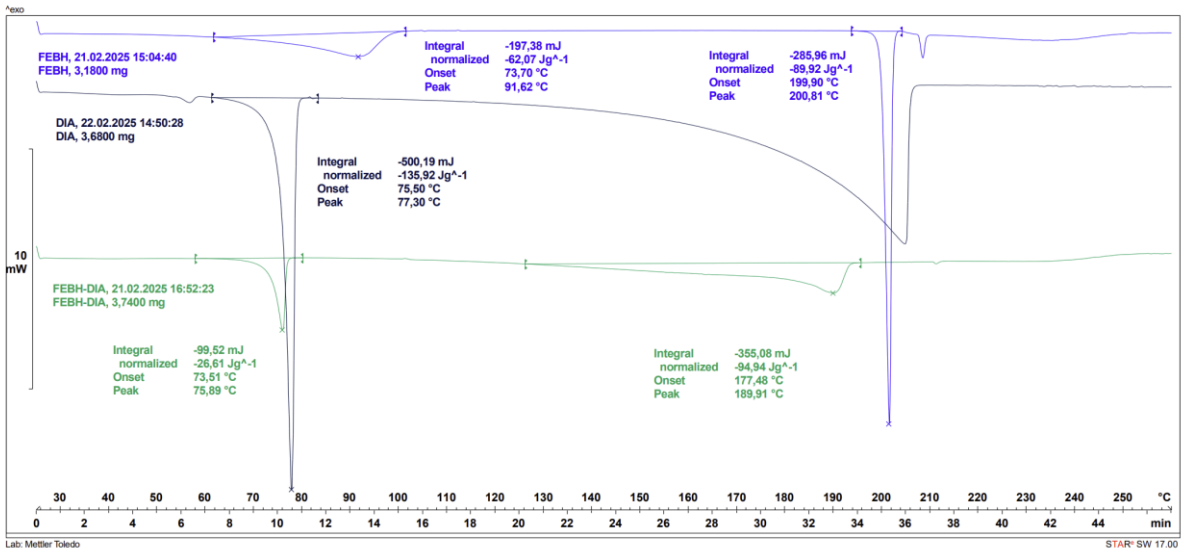



Figure S8. Comparisons of DSC curves of FEBH (blue), DIA (black) and FEBH-DIA cocrystal (green).

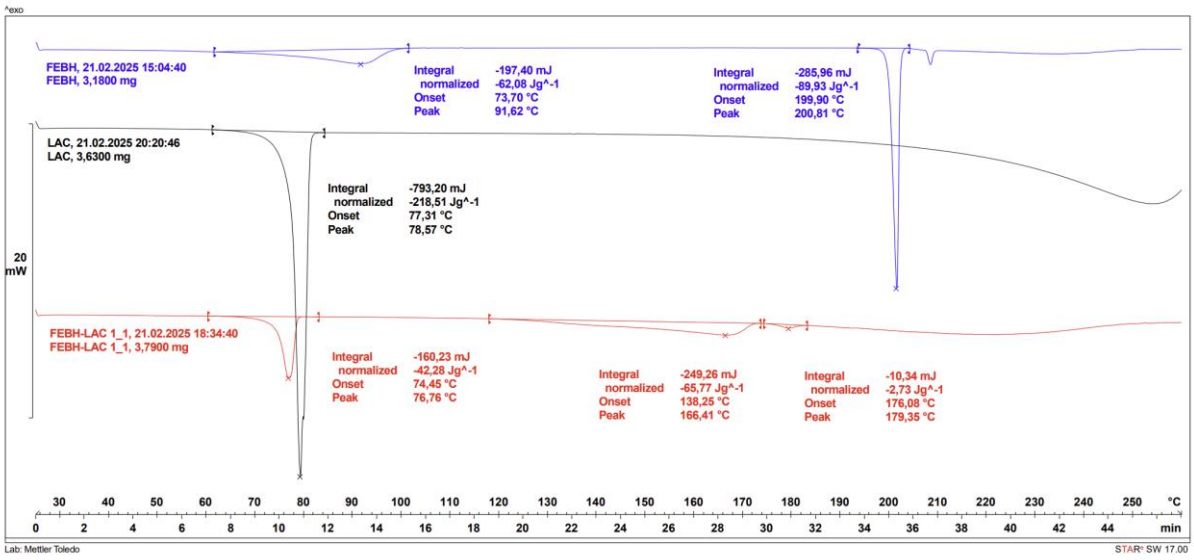



Figure S9. Comparisons of DSC curves of FEBH (blue), LAC (black) and FEBH-LAC cocrystal (red).

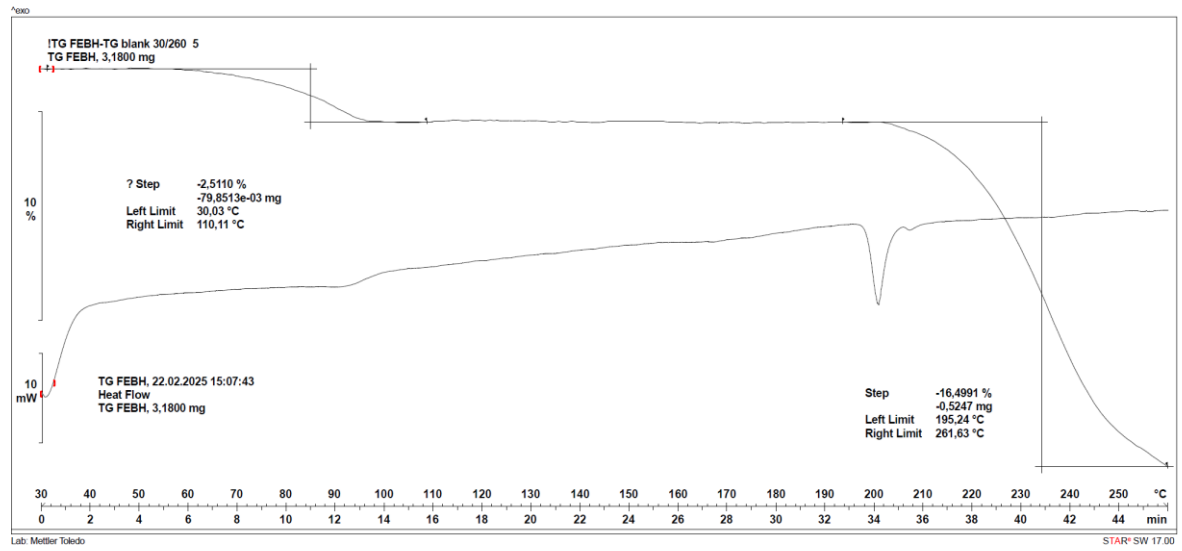



Figure S10. TGA of FEBH.

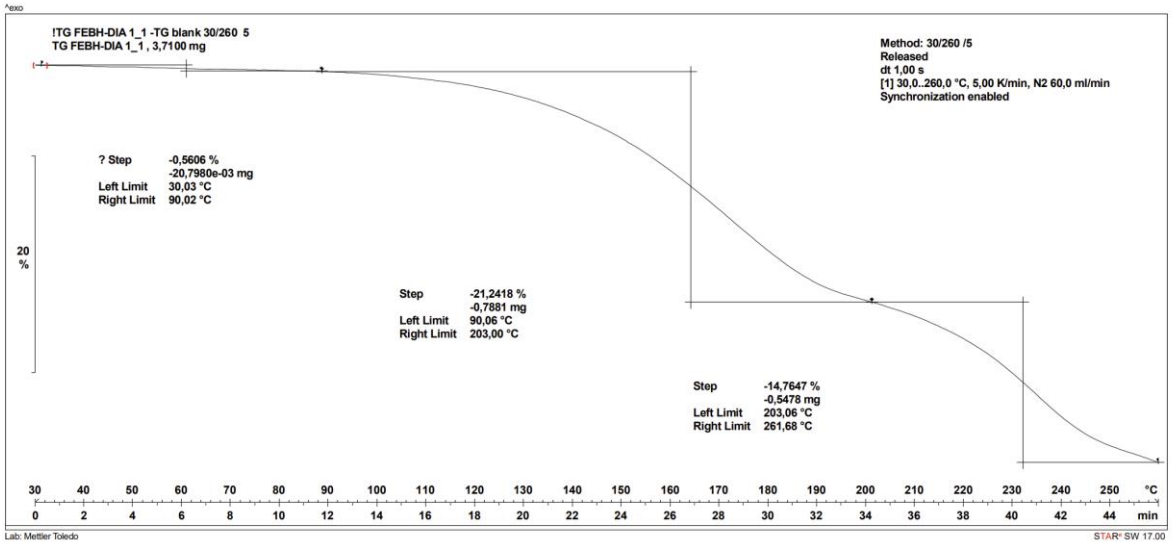



Figure S11. TGA of FEBH-DIA cocrystal.

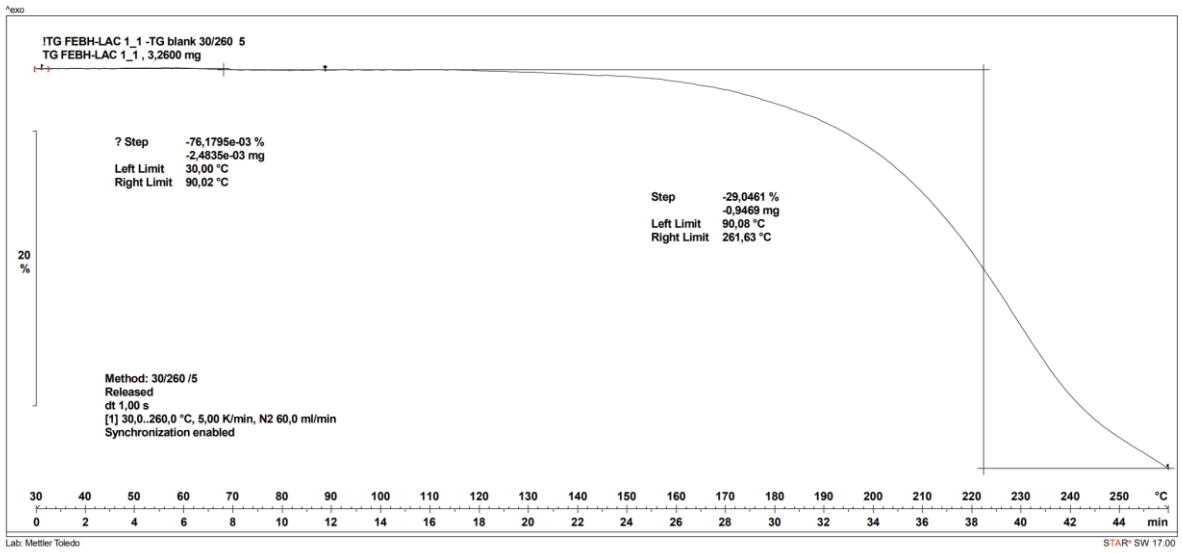



Figure S12. TGA of FEBH-LAC cocrystal.