

## Supporting Information

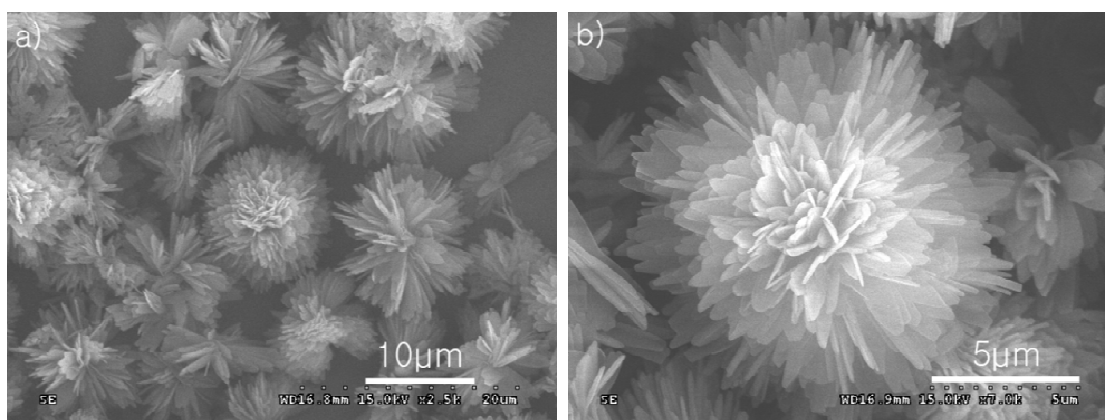
### A Peony-Flower-like Hierarchical Mesocrystal formed by Diphenylalanine\*\*

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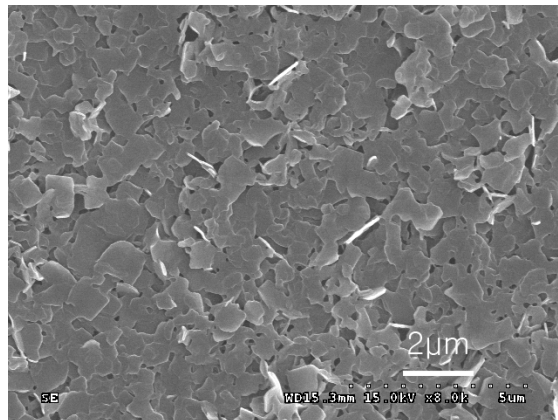
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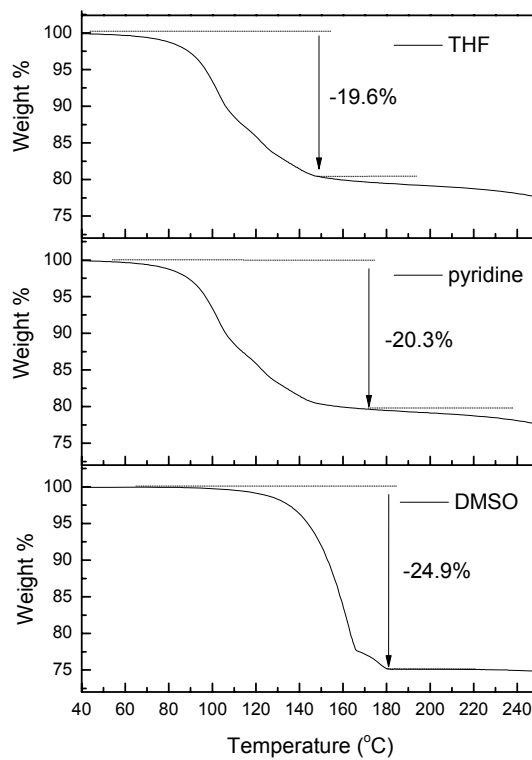
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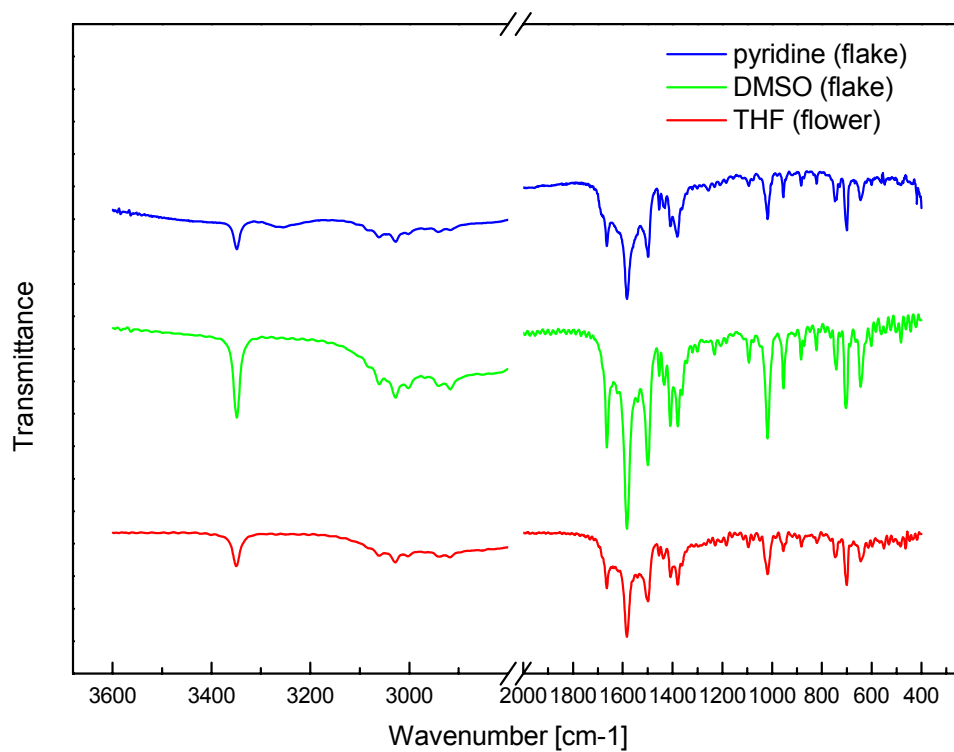
**Figure S1** (a) low and (b) high magnification SEM images of flower-like FF aggregates in 1, 4-dioxane.



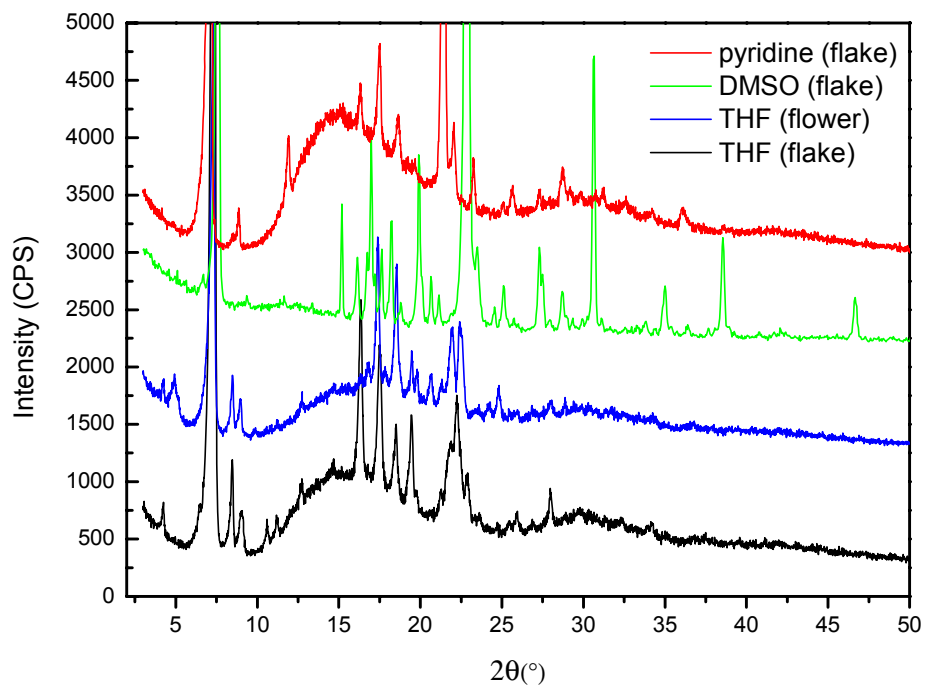
**Figure S2** SEM images of FF flakes in ethyl acetate.



**Figure S3** TGA curves between 40–250 °C of mesocrystals obtained in different solvents.



**Figure S4** FTIR spectra of FF nanostructures self-assembled in THF (red), DMSO (green), and pyridine (blue).



**Figure S5** X-ray diffraction of different samples prepared in THF (adding HFIP) (black), DMSO (adding HFIP) (blue), and pyridine (adding HFIP) (green) and THF (without adding HFIP) (red).