

Impact of flexible succinate connectors on the formation of tetrasulfonylcalix[4]arene based Nano-sized polynuclear cages: structural diversity and induced chirality study

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Electronic Supplementary Information

XRPD studies

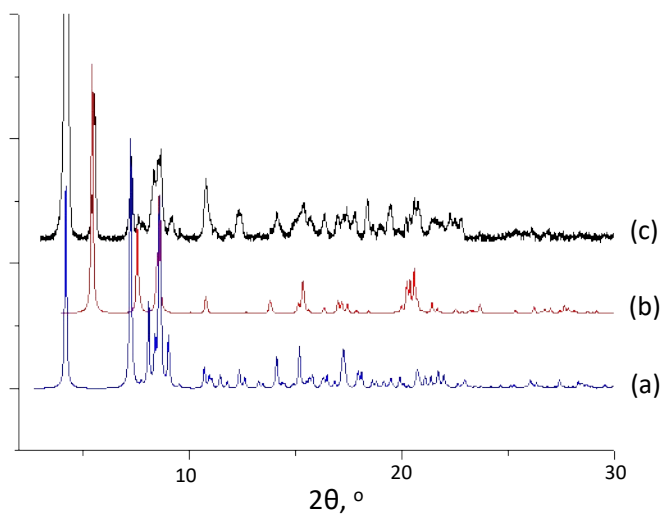


Figure S1. Comparison of simulated $3_2\text{Co}_8(\text{suc})_4$ (a) and $3_2\text{Co}_8(\text{suc})_4\text{-Co}$ (b) powder X-Ray diffraction (PXRD) diagrams with the experimental powdered compound of the freshly prepared compound (slow diffusion technique) (c) demonstrating the presence of both phases in the analyzed polycrystalline sample.

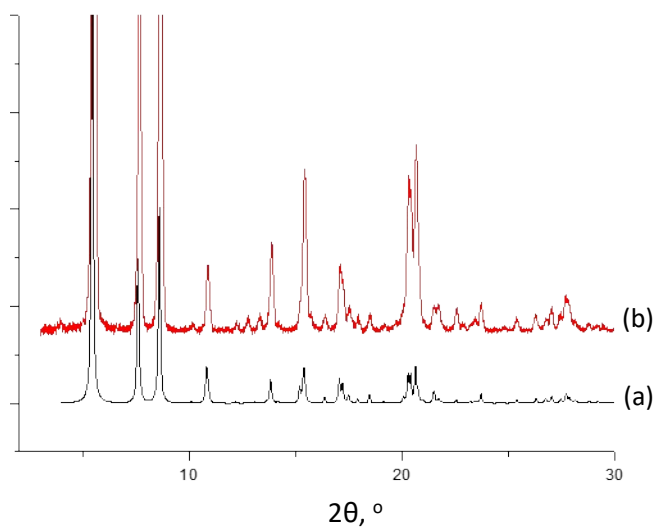


Figure S2. The powder X-Ray diffraction (PXRD) studies demonstrating the good match between the simulated (a) and experimental (b) patterns for $3_2\text{Ni}_8(\text{suc})_4\text{-Ni}$.

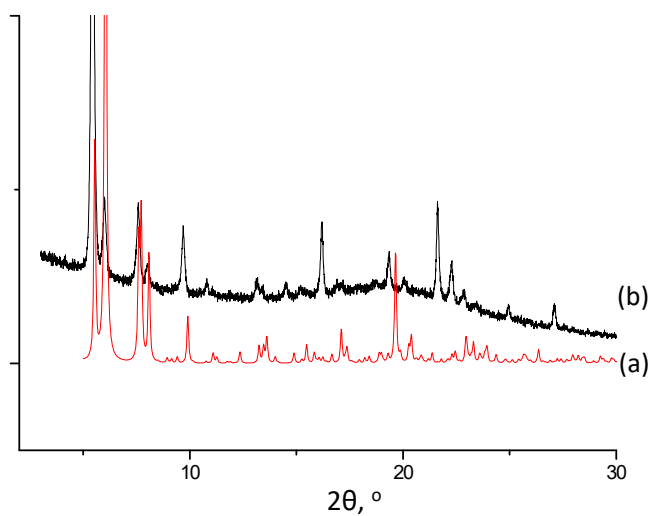


Figure S3. The powder X-Ray diffraction (PXRD) studies demonstrating the good match between the simulated (a) and experimental (b) patterns for $3_2\text{Zn}_6(\text{suc})_2$.

TGA analysis

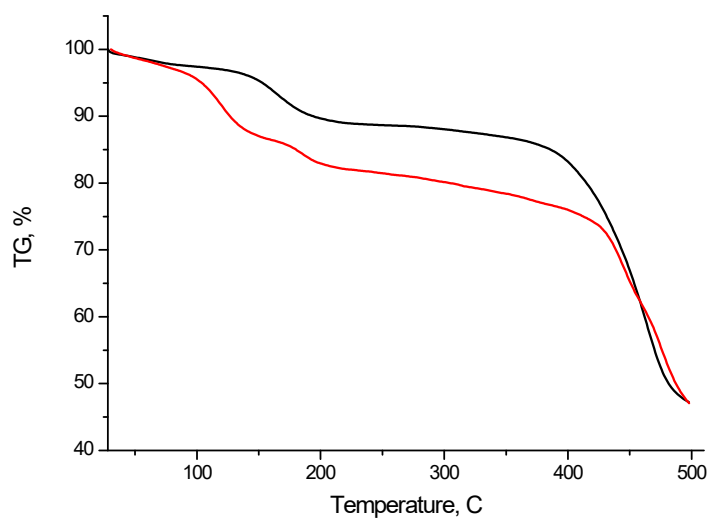


Figure S4. For obtained homogeneous compounds $3_2\text{Ni}_8(\text{suc})_4\text{-Ni}$ (black) and $3_2\text{Zn}_6(\text{suc})_2$ (red), TGA traces were recorded between 25 – 500°C at a rate of 5°/mn. For $3_2\text{Ni}_8(\text{suc})_4\text{-Ni}$, the observed mass loss is in good agreement with the quantity of solvate molecules (4H₂O and 4DMF) molecules per crystalline unit established by XRD. In the case of $3_2\text{Zn}_6(\text{suc})_2$, it was found out that the crystalline unit contains 2H₂O and 7DMF molecules in contrast to 2H₂O molecules and 14DMF molecules established by XRD which indicates the relatively fast loss of solvate molecules by compound after separation from mother liquor.

IR analysis

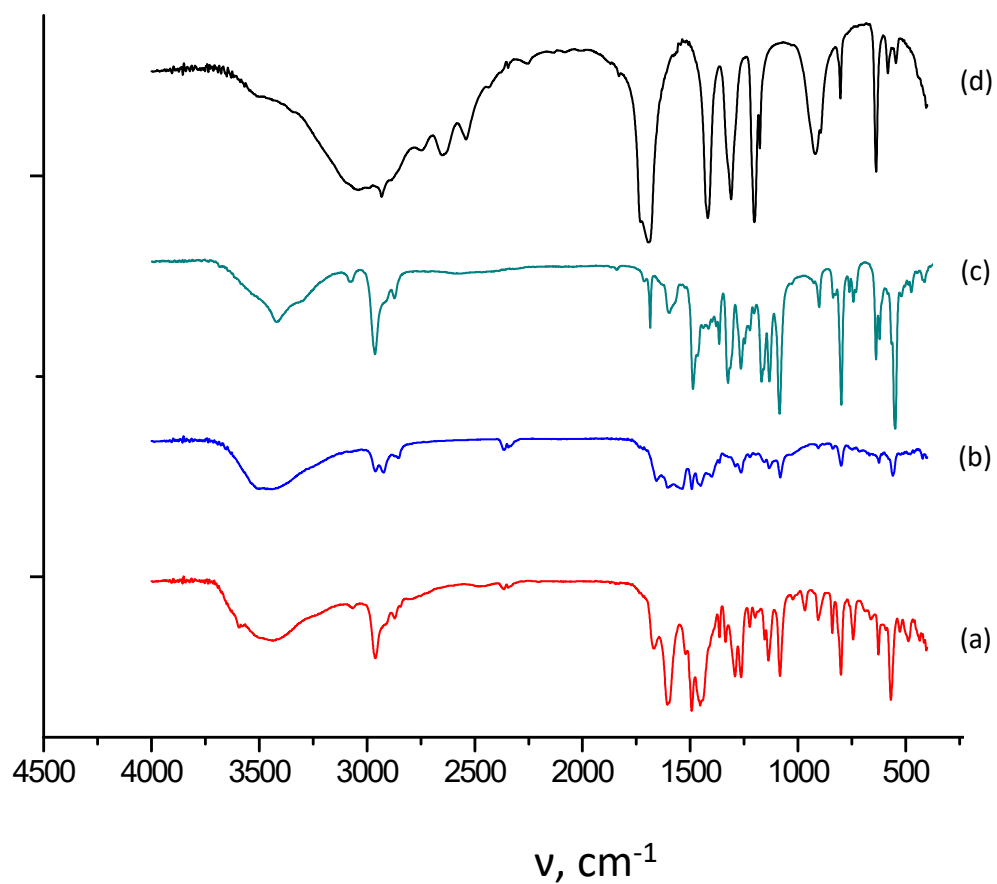


Figure S5: Comparison of IR-spectra recorded for pure $3_2\text{Ni}_8(\text{suc})_4\text{-Ni}$ (a), $3_2\text{Zn}_6(\text{suc})_2$ (b), 3-4H (c) and succinic acid (d).