

Supporting Information

Constructing Calixarene-supported High Nuclearity Co₂₇, Co₂₈ and Ni₁₈Na₆ Clusters with triazoles as the co-bridges

Shentang Wang,^{a,b} Yanfeng Bi^a and Wuping Liao*^a

^a State Key Laboratory of Rare Earth Resource Utilization, ERC for the Separation and Purification of REs and Thorium, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022(China)

^b University of Chinese Academy of Sciences, Beijing 100049, China

*To whom correspondence should be addressed. E-mail: wpliao@ciac.ac.cn

Tel: +86-431-8526 2726; Fax: +86-431-8526 2762

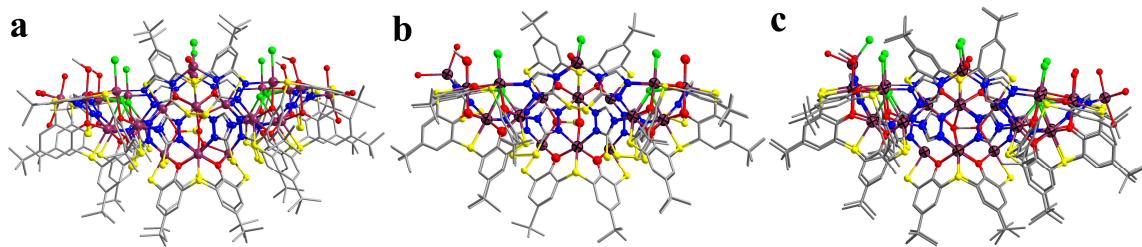


Fig. S1 Side-views of compounds **CIAC-210--212** looking like the flying saucer.

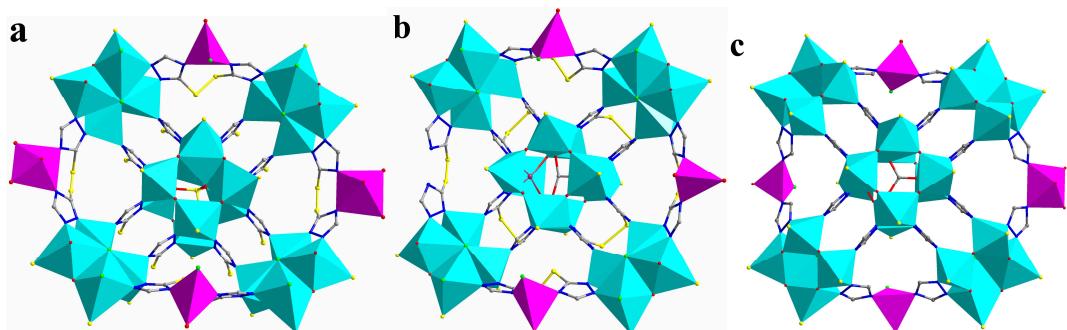


Fig. S2 Top-views of **CIAC-210--212**.

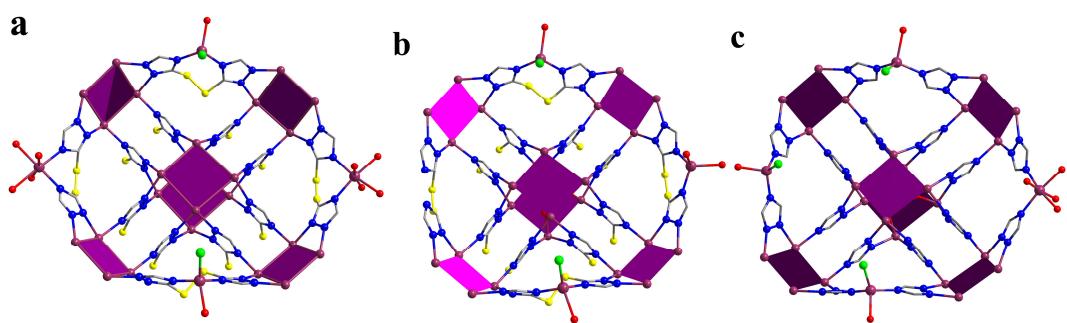


Fig. S3 The trampoline-like structures of **CIAC-210--212** with calixarene molecules omitted.

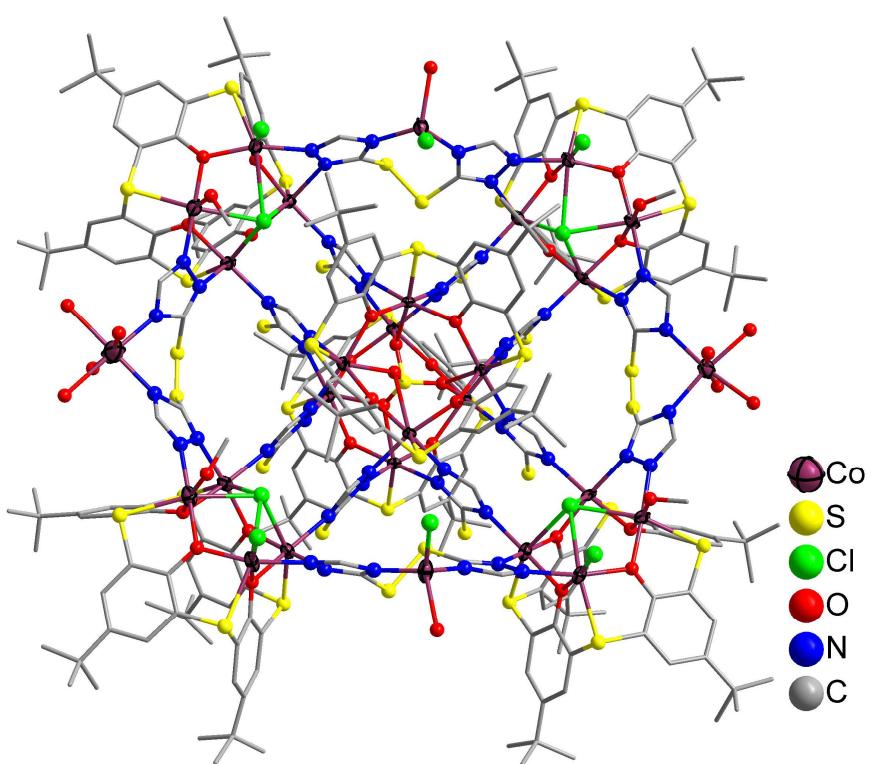


Fig. S4 Molecular structure of **CIAC-210**.

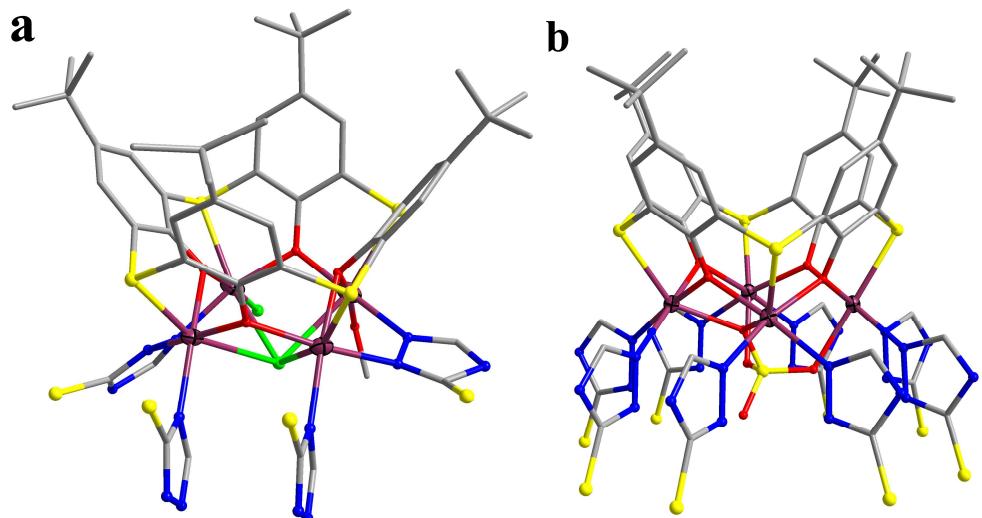


Fig. S5 $\text{Co}_4\text{-TC}_4\text{A}$ SBUs coordination environment in **CIAC-210**.

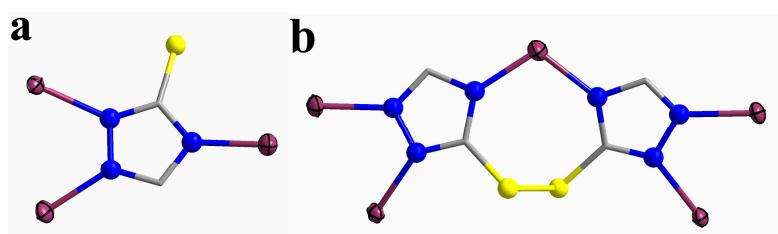


Fig. S6 3-SH-trz (a) and di-S-trz (b) coordination environment of **CIAC-210**.

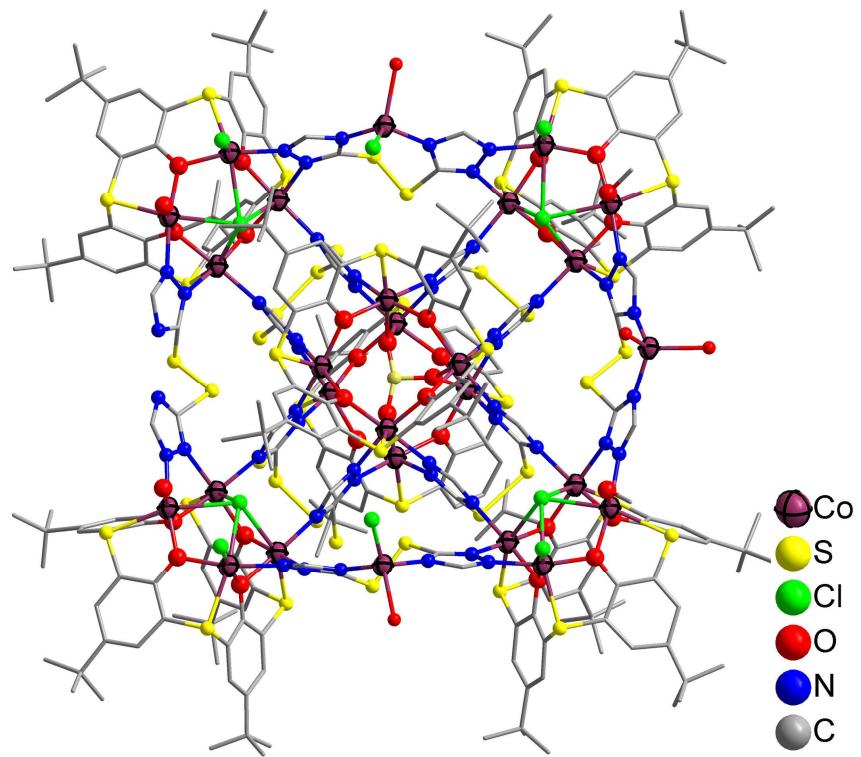


Fig. S7 Molecular structure of **CIAC-211**.

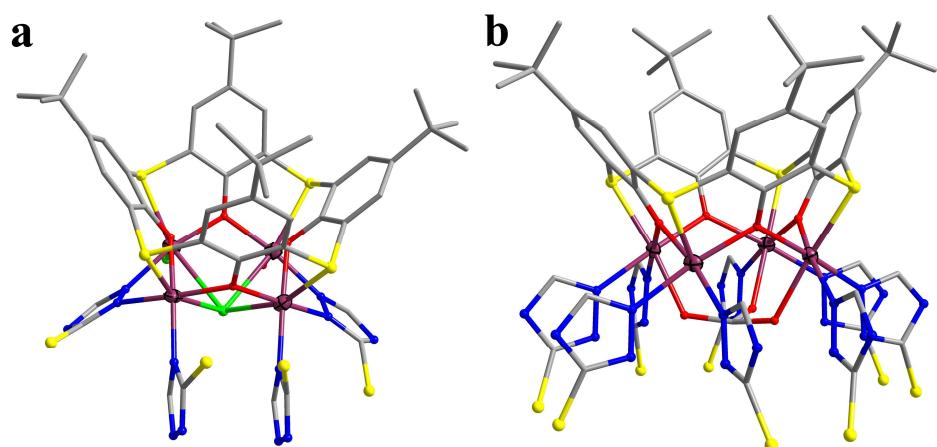


Fig. S8 $\text{Co}_4\text{-TC4A}$ SBUs coordination environment in **CIAC-211**.

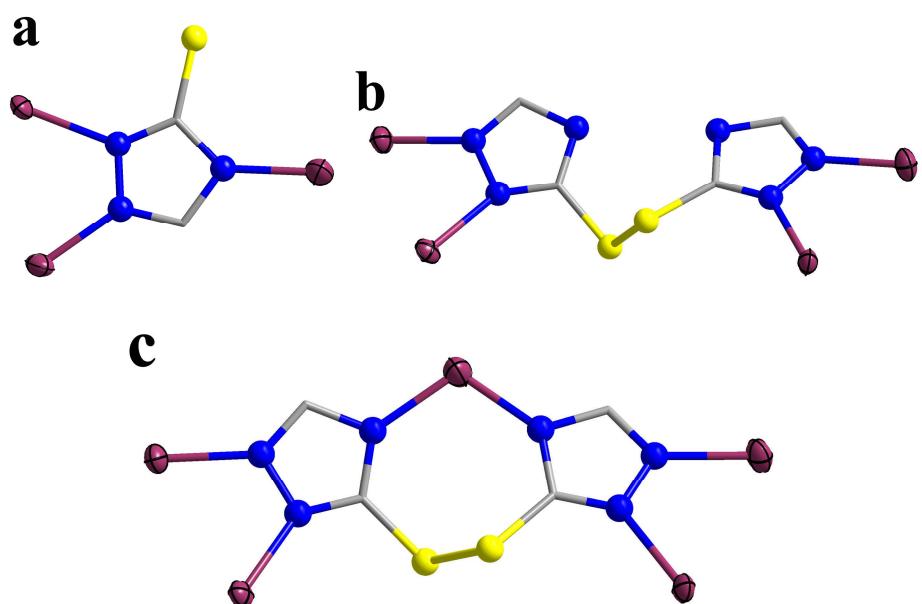


Fig. S9 3-SH-trz (a) and di-S-trz (b,c) coordination environment in **CIAC-211**.

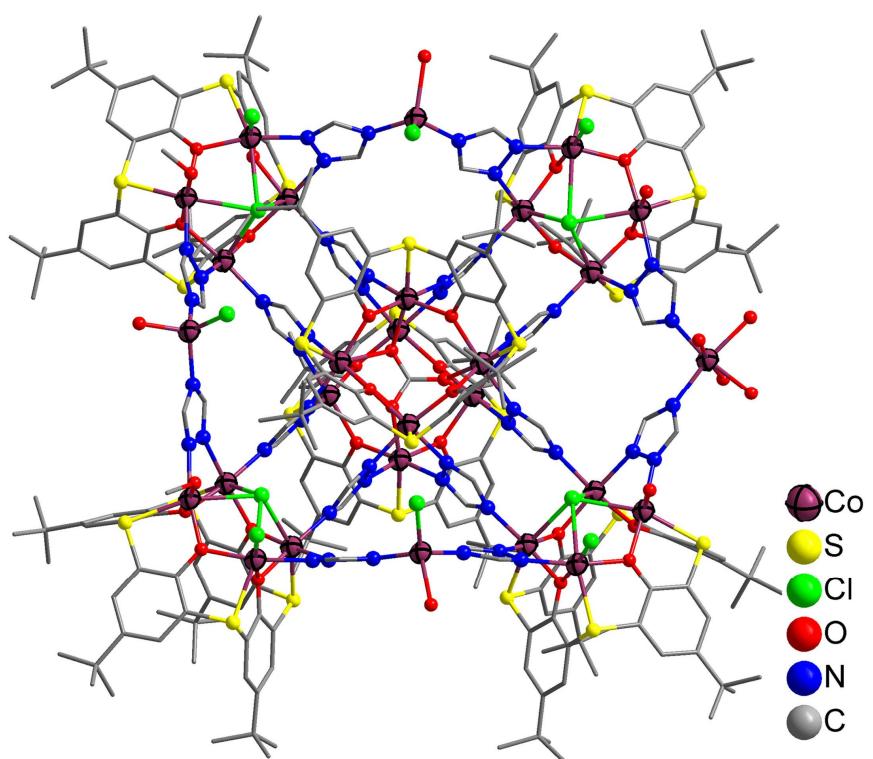


Fig. S10 Molecular structure of **CIAC-212**.

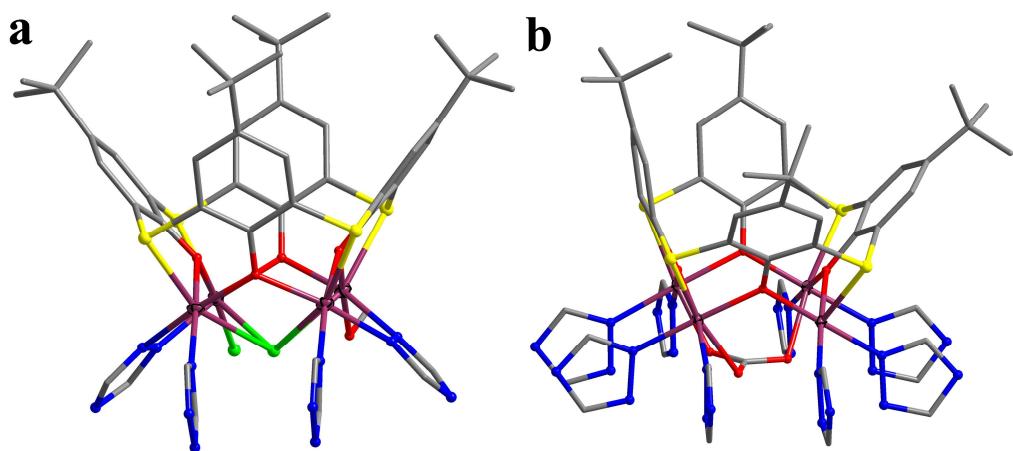


Fig. S11 $\text{Co}_4\text{-TC4A}$ SBUs coordination environment in **CIAC-212**.



Fig. S12 trz coordination environment in **CIAC-212**.

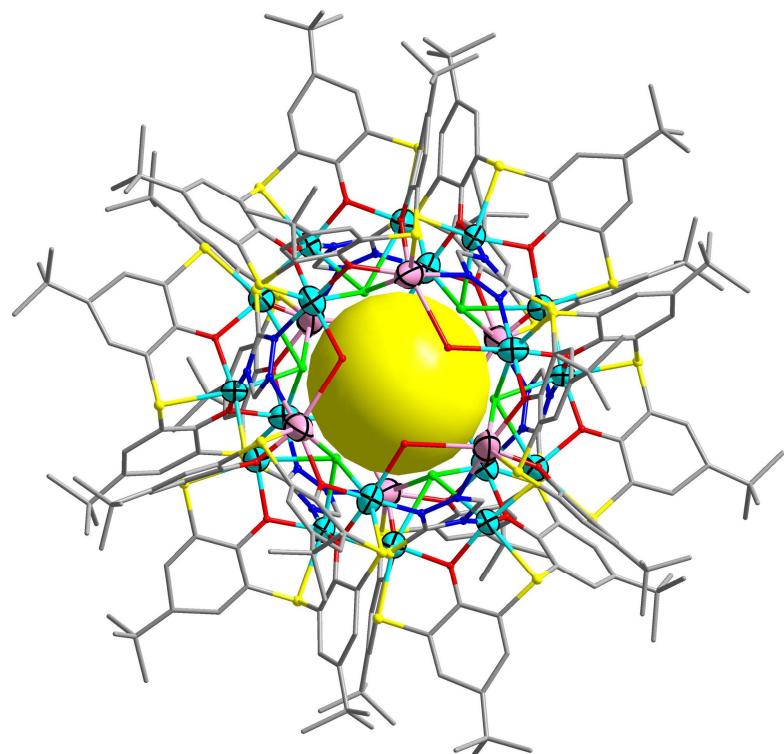


Fig. S13 Molecular structure of **CIAC-213**

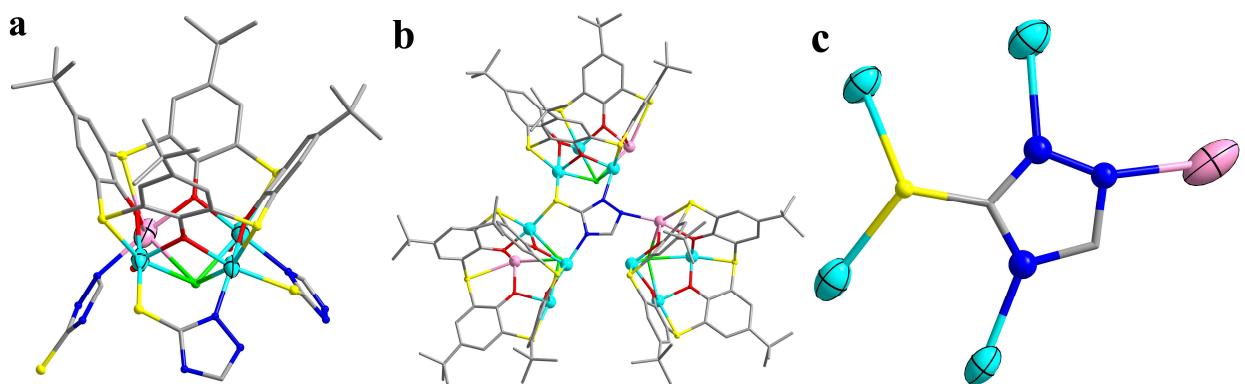


Fig. S14 Ni₃Na-TC4A SBU (**a**) and 3-SH-trz (**b** and **c**) coordination environment in **CIAC-213**.

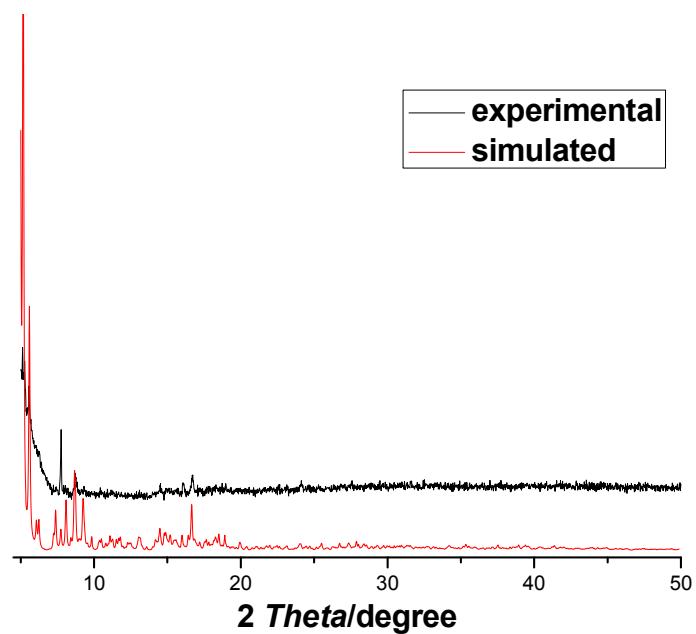


Fig. S15 Simulated (red) and experimental (black) XRD patterns of **CIAC-210**.

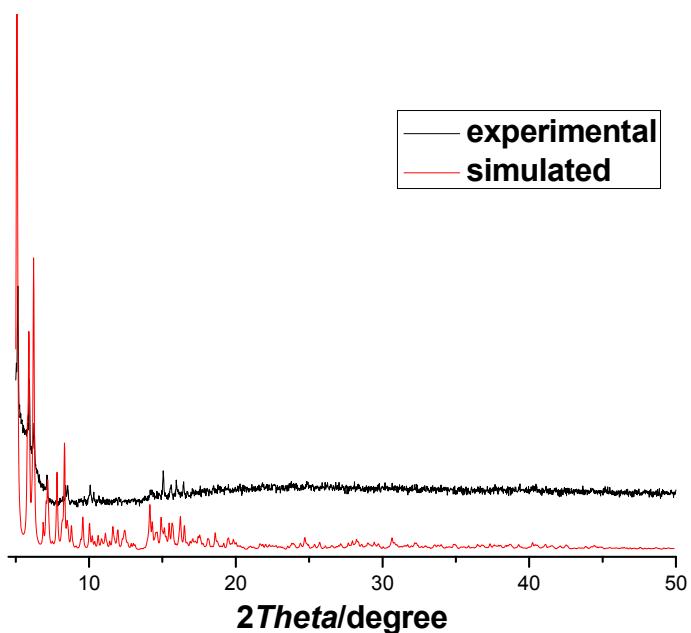


Fig. S16 Simulated (red) and experimental (black) XRD patterns of **CIAC-211**.

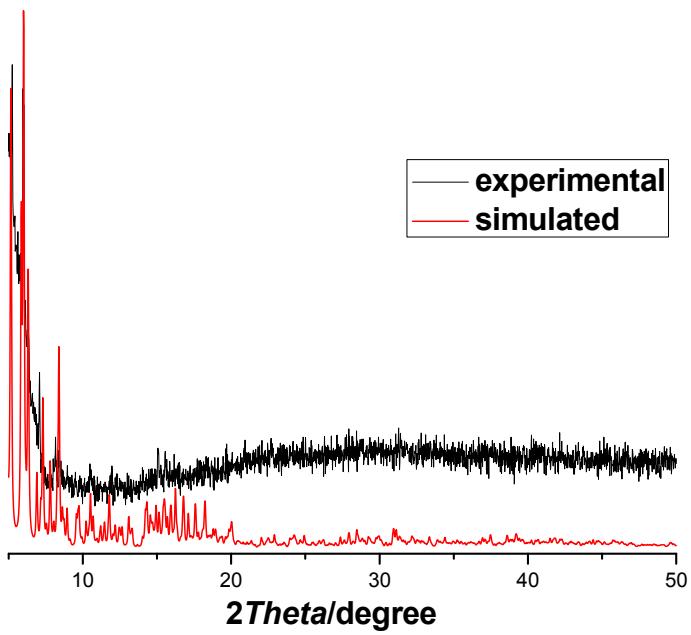


Fig. S17 Simulated (red) and experimental (black) XRD patterns of **CIAC-212**.

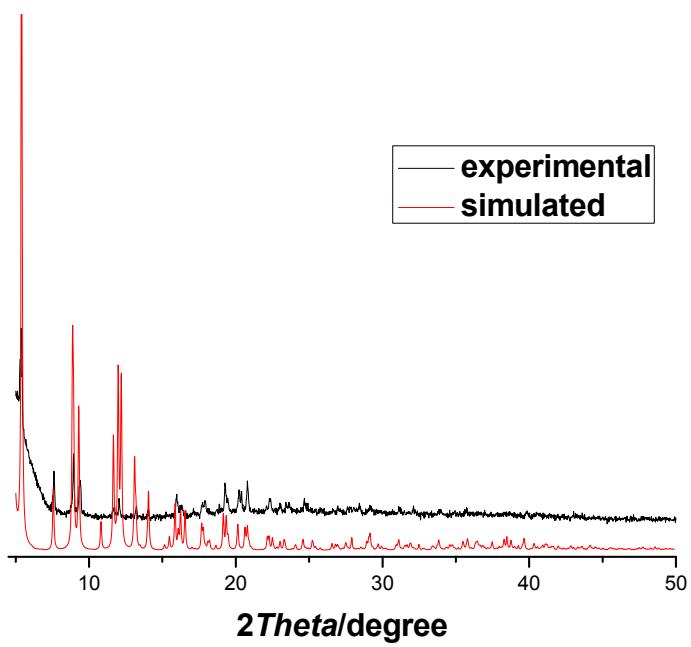


Fig. S18 Simulated (red) and experimental (black) XRD patterns of CIAC-213.

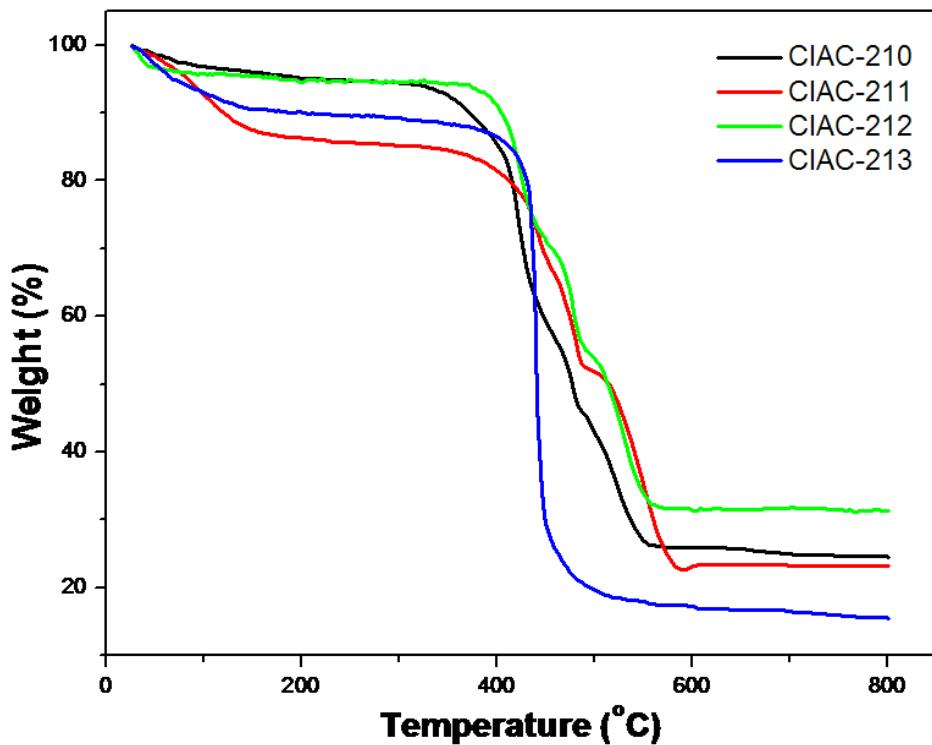


Fig. S19 TG/DSC curves of CIAC-210--213 (in air).

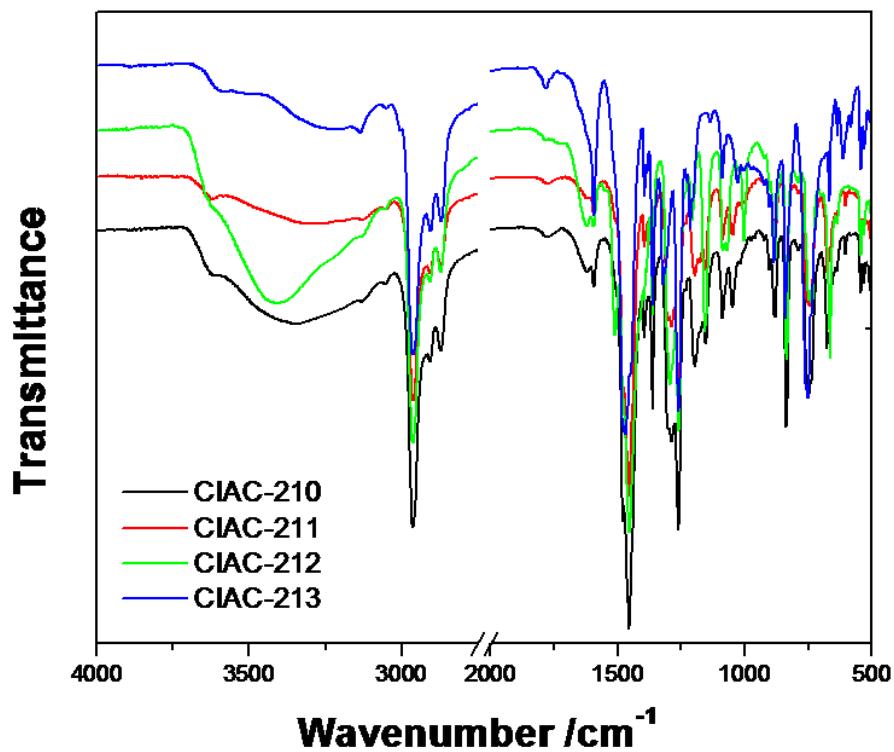


Fig. S20 FT-IR spectra of the compound CIAC-210--213.