

<Electronic Supplementary Information>

**Construction of helical coordination polymers via flexible conformers of
bis(3-pyridyl)cyclotetramethylenesilane: metal(II) and halogen effects on
luminescence, thermolysis and catalysis**

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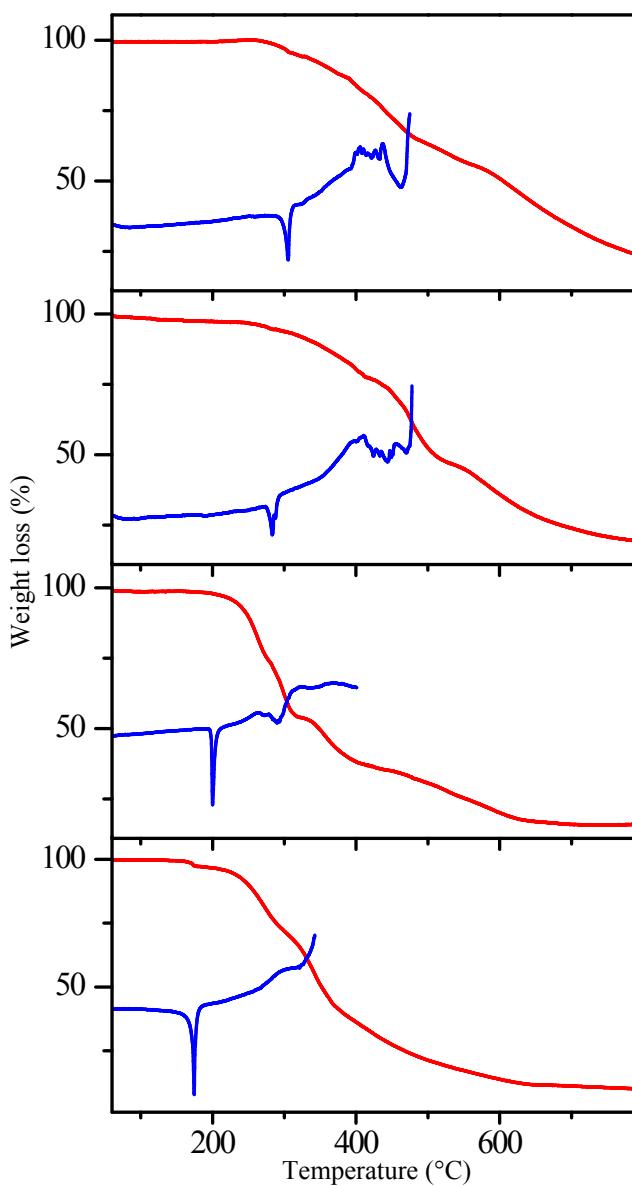


Fig. S1 TGA (red) and DSC (blue) curves of $[ZnCl_2L]$ (a), $[ZnBr_2L]$ (b), $[HgCl_2L]$ (c), and $[HgBr_2L]$ (d).

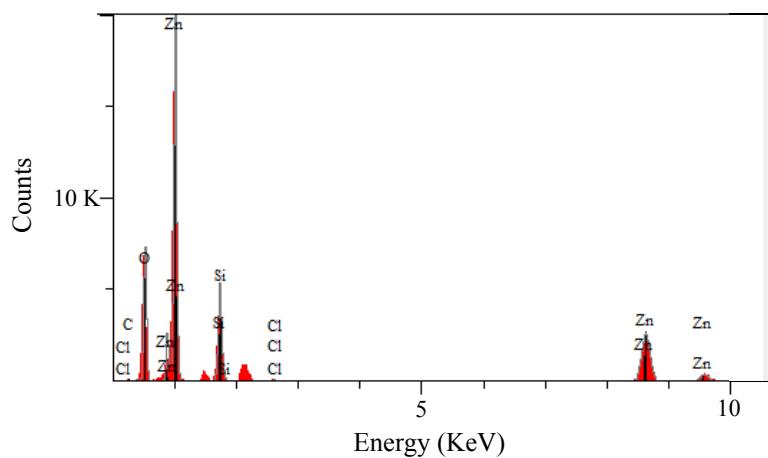
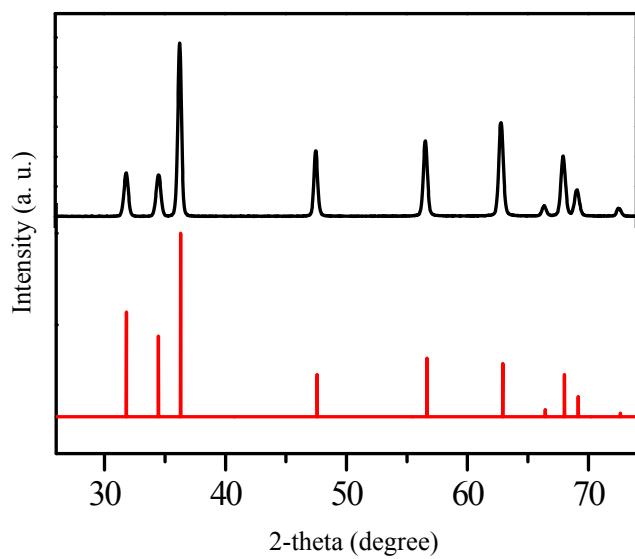


Fig. S2 Top: powder XRD data for zinc(II) oxide residue (black) and reference pattern (red) from ICDD database (PDF no. 36-1451). Bottom: SEM-EDX data for the zinc(II) oxide residue.

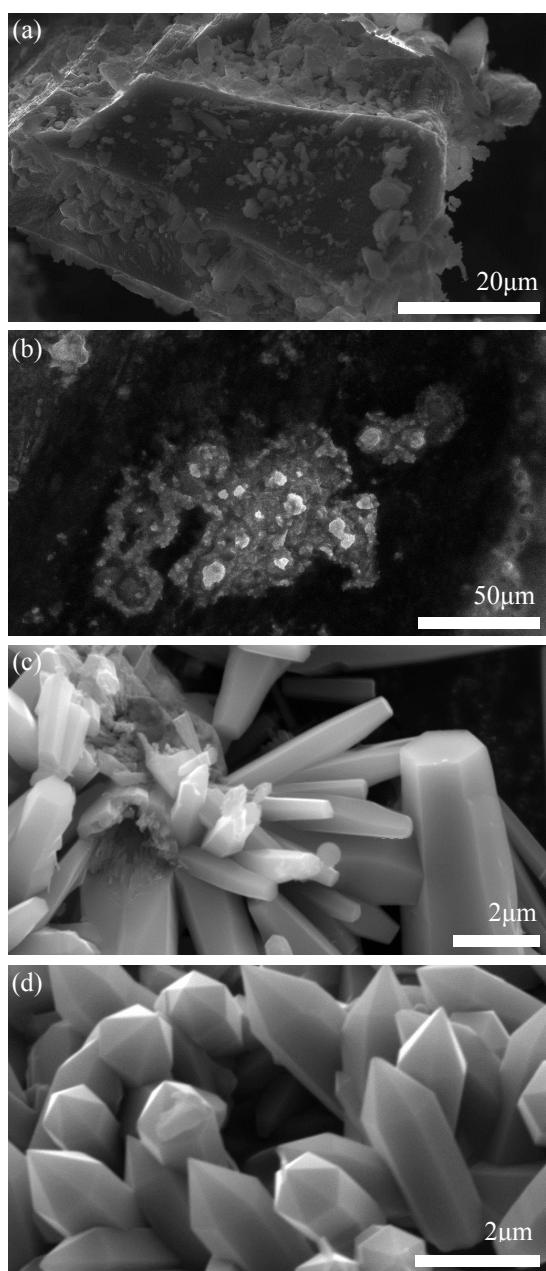


Fig. S3 SEM images showing morphologies of thermal decomposition residue of $[ZnCl_2L]$ calcined at 200 °C (a), 300 °C (b), 400 °C (c), and 500 °C (d) for 2 h.

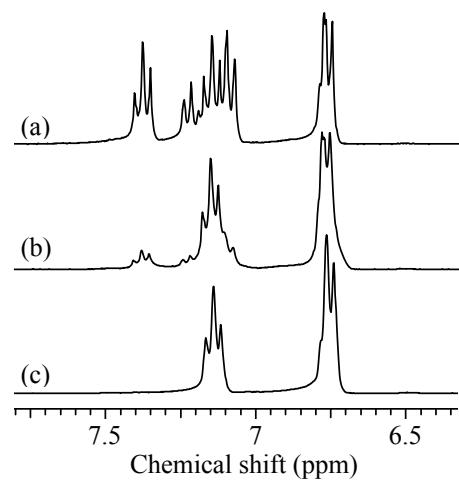


Fig. S4 ¹H NMR on the procedure of transesterification using [ZnCl₂L] ((a) 1 h, (b) 3 h, (c) 7 h).

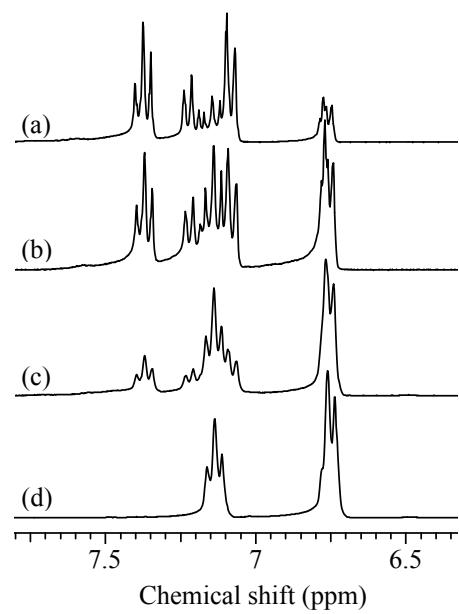


Fig. S5 ¹H NMR on the procedure of transesterification using [ZnBr₂L] ((a) 1h, (b) 3h, (c) 7 h, (d) 14 h).

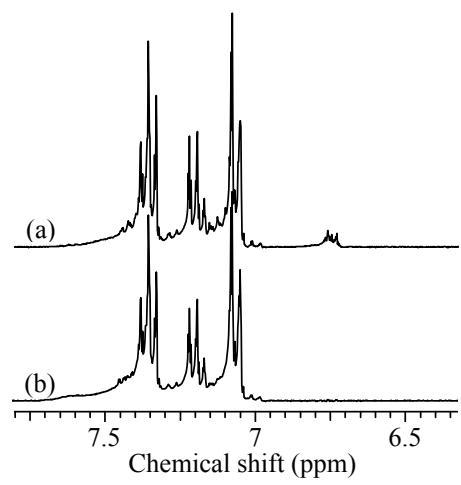


Fig. S6 ^1H NMR spectra showing the transesterification of phenyl acetate in methanol using $[\text{HgCl}_2\text{L}]$ (a) and $[\text{HgBr}_2\text{L}]$ (b) for 13 h.

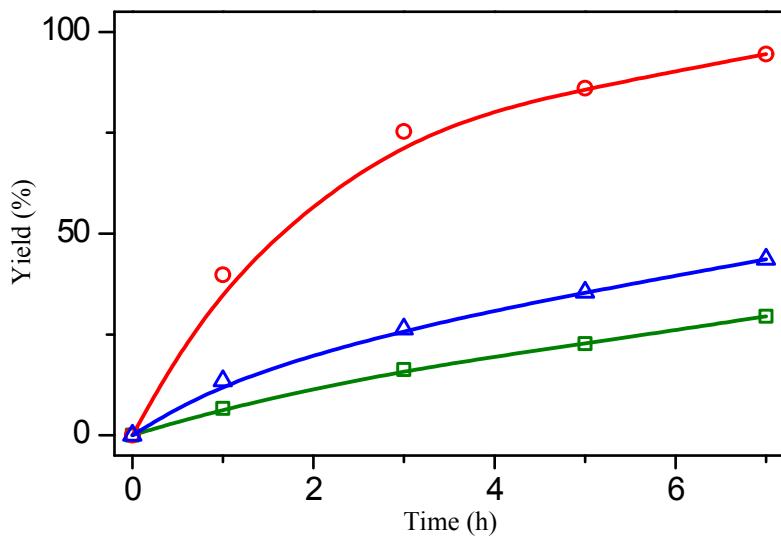


Fig. S7 Plot showing the transesterification catalytic yield as a function of time using ZnCl₂ (red), Zn(pyridine)₂Cl₂ (blue), and ZnO (green).