## Electronic supplementary information (ESI)

## $\mathrm{Hg}(\mathrm{II})$ supramolecular isomers: structural transformation and photoluminescence change

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Fig. S1 (a) A drawing showing the $\mathrm{N}-\mathrm{H}---\mathrm{O}$ interactions in 1. (b) A drawing showing the shortest $\pi-\pi$ contact.

(a)

(b)

Fig. $\mathbf{S 2}$ (a) A drawing showing the $\mathrm{N}-\mathrm{H}---\mathrm{O}$ interactions in 2. (b) A drawing showing the shortest $\pi-\pi$ contact.


Fig. $\mathbf{S 3}$ (a) A drawing showing the $\mathrm{N}-\mathrm{H}-\mathrm{-}-\mathrm{O}$ interactions in 3. (b) A drawing showing the shortest $\pi-\pi$ contact.

(a)

(b)

Fig. S 4 (a) A drawing showing the $\mathrm{N}-\mathrm{H}---\mathrm{O}$ interactions in 4. (b) A drawing showing the shortest $\pi-\pi$ contact.

(a)

(b)

Fig. S5 Simulated and experimental powder X-ray patterns for 1.


Fig. S6 Simulated and experimental powder X-ray patterns for 2.


Fig. S7 Simulated and experimental powder X-ray patterns for $\mathbf{1}$ (alternate method).



| 10 | 20 | 30 | 40 | 50 |
| :---: | :---: | :---: | :---: | :---: |
| 2 theta |  |  |  |  |

Fig. S8 Simulated and experimental powder X-ray patterns for 2 (alternate method).


Fig. S9 Simulated and experimental powder X-ray patterns for 3.


| 10 | 20 | 30 | 1 | 40 | 50 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2 theta |  |  |  |

Fig. S10 Simulated and experimental powder X-ray patterns for 4.


Fig. S11 (a) Powder XRD pattern of $\mathbf{3}$ at variable temperature showing crystal to crystal transformation: (a) simulation of 3, (b) RT, (c) $180^{\circ} \mathrm{C}$, (d) $190^{\circ} \mathrm{C}$, (e) $200^{\circ} \mathrm{C}$ (f) $210^{\circ} \mathrm{C}$ and (g) simulation of 4. (b) Powder XRD patterns showing structural transformation from complex 1 to 2 under hydrothermal condition: (a) simulation of $\mathbf{1}$, (b) $\mathbf{1}$ as synthesized, (c) $\mathbf{2}$ after hydrothermal and (d) simulation of $\mathbf{2}$.

(a)

(b)

Fig. S12 DSC thermogram of complex 1.


Fig. S13 DSC thermogram of complex 2.


Fig. S14 DSC thermogram of complex 3 .


Fig. S15 DSC thermogram of complex 4.


Fig. S16 Solid state UV/Visible spectra of 1-4.


Fig. S17 (a) Solid and (b) solution ( 0.5 mM in DMF and EtOH) emission/excitation spectra of $\mathbf{L}$ ligand.

(a)

(b)

| Ligand | Solvent | Ex (nm) | Em (nm) |
| :--- | :--- | :---: | :---: |
| $\mathbf{L}$ | DMF | 374 | 421 |
| $\mathbf{L}$ | EtOH | 375 | 422 |

Fig. S18 Normalized emission spectra of 1-3 in the solid state.


