

<Electronic Supplementary Information>

**Supramolecular isomerism between cyclodimeric and sinusoidal 1D coordination
polymers: competition of tunable argentophilic vs electrostatic interactions**

Heehun Moon,^a Sang Woo Lim,^a Dongwon Kim,^a Ok-Sang Jung*^a and Young-A Lee*^b

^aDepartment of Chemistry, Pusan National University, Busan 46241, Republic of Korea Fax: (+82) 51-5163522;

Tel: (+82) 51-5103240; E-mail: oksjung@pusan.ac.kr

^bDepartment of Chemistry, Jeonbuk National University, Jeonju 54896, Korea.

E-mail: ylee@jbnu.ac.kr

Electronic Supplementary Information (ESI) available: ¹H NMR spectra and IR spectra of ligand, [AgL]₂(NO₃)₂, [AgL]₂(BF₄)₂, [AgL]₂(ClO₄)₂, [AgL]₂(PF₆)₂·5C₄H₈O₂, [AgL](BF₄), [AgL](ClO₄) and [AgL](PF₆). TGA-DSC curves of [AgL]₂(NO₃)₂, [AgL]₂(BF₄)₂, [AgL]₂(ClO₄)₂, [AgL]₂(PF₆)₂·5C₄H₈O₂, [AgL](BF₄), [AgL](ClO₄) and [AgL](PF₆). Crystal structures of [AgL]₂(NO₃)₂, [AgL]₂(BF₄)₂, [AgL]₂(ClO₄)₂ and [AgL]₂(PF₆)₂·5C₄H₈O₂. Solid-state PL spectra of [AgL](ClO₄)₂ and [AgL](ClO₄).

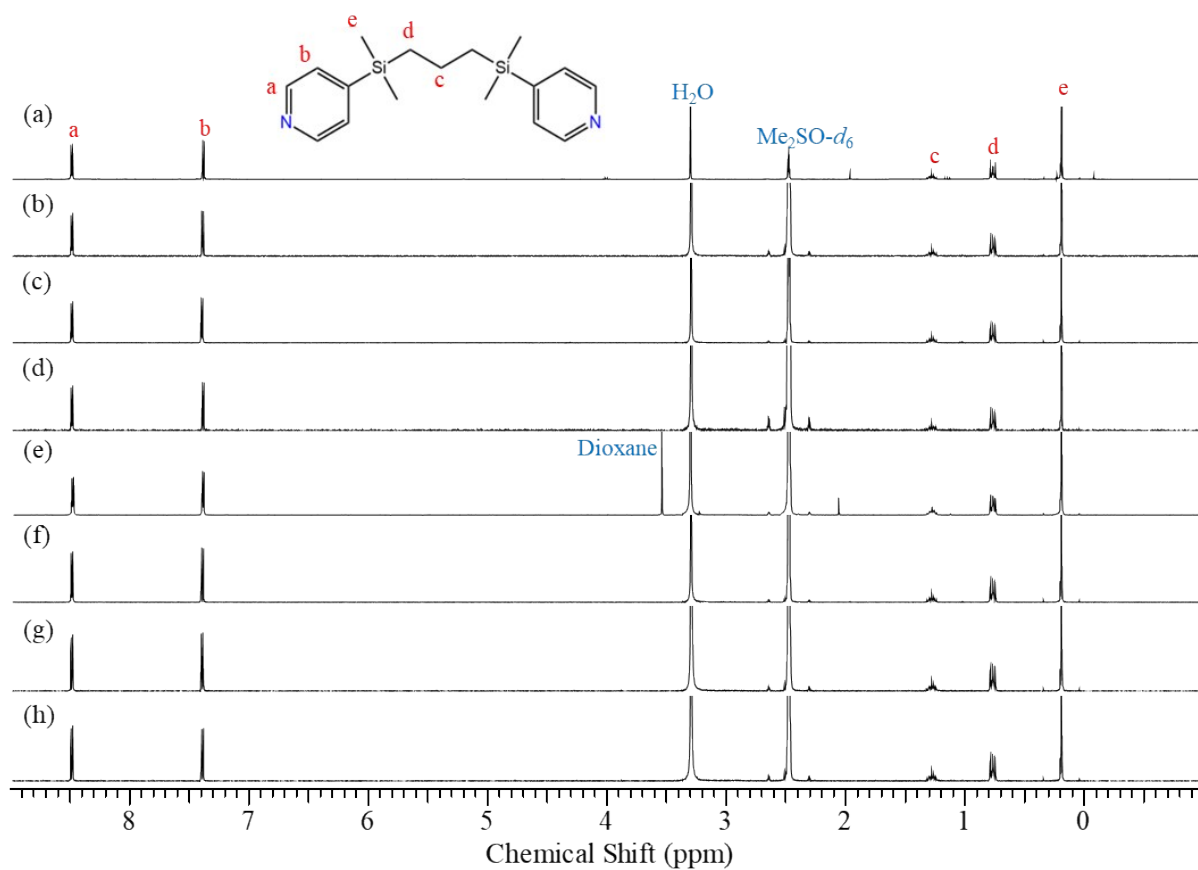


Fig. S1 ^1H NMR spectra for L (a), $[\text{AgL}]_2(\text{NO}_3)_2$ (b), $[\text{AgL}]_2(\text{BF}_4)_2$ (c), $[\text{AgL}]_2(\text{ClO}_4)_2$ (d), $[\text{AgL}]_2(\text{PF}_6)_2 \cdot 5\text{C}_4\text{H}_8\text{O}_2$ (e), $[\text{AgL}](\text{BF}_4)$ (f), $[\text{AgL}](\text{ClO}_4)$ (g), and $[\text{AgL}](\text{PF}_6)$ (h) in $\text{Me}_2\text{SO}-d_6$.

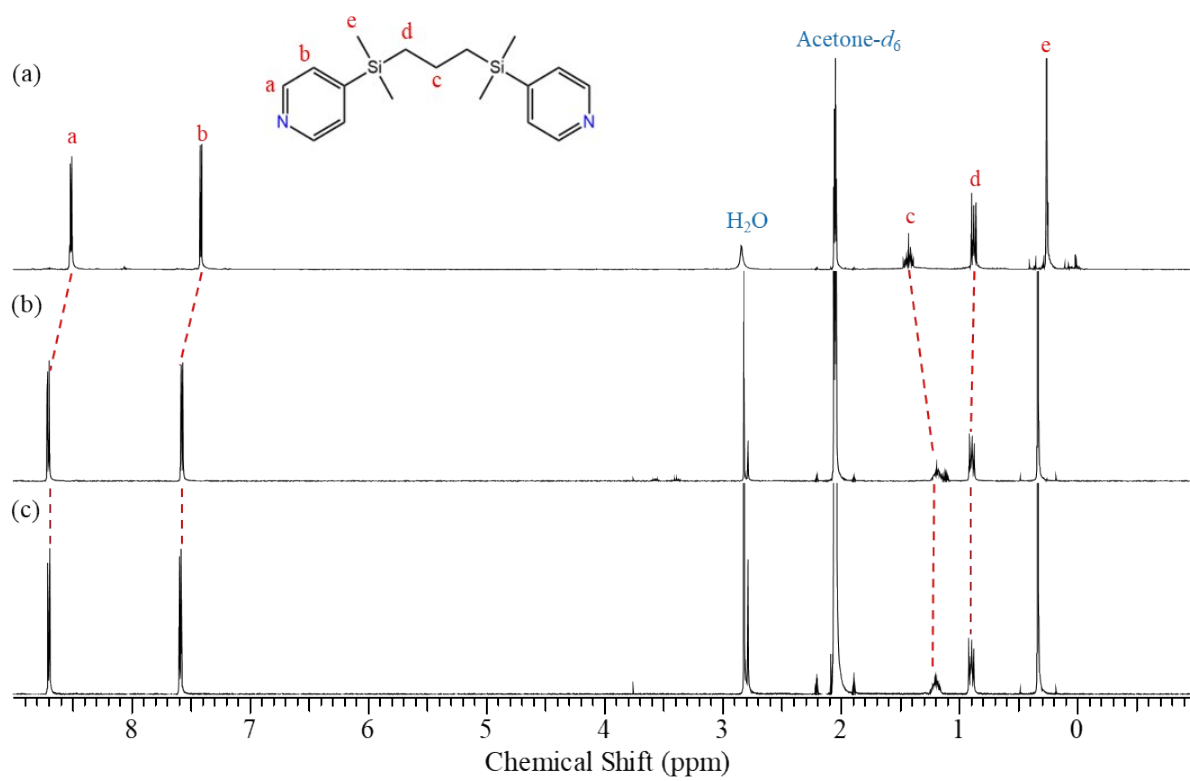


Fig. S2 ¹H NMR spectra for L (a), [AgL]₂(ClO₄)₂ (b), [AgL](ClO₄) (c) in acetone-*d*₆.

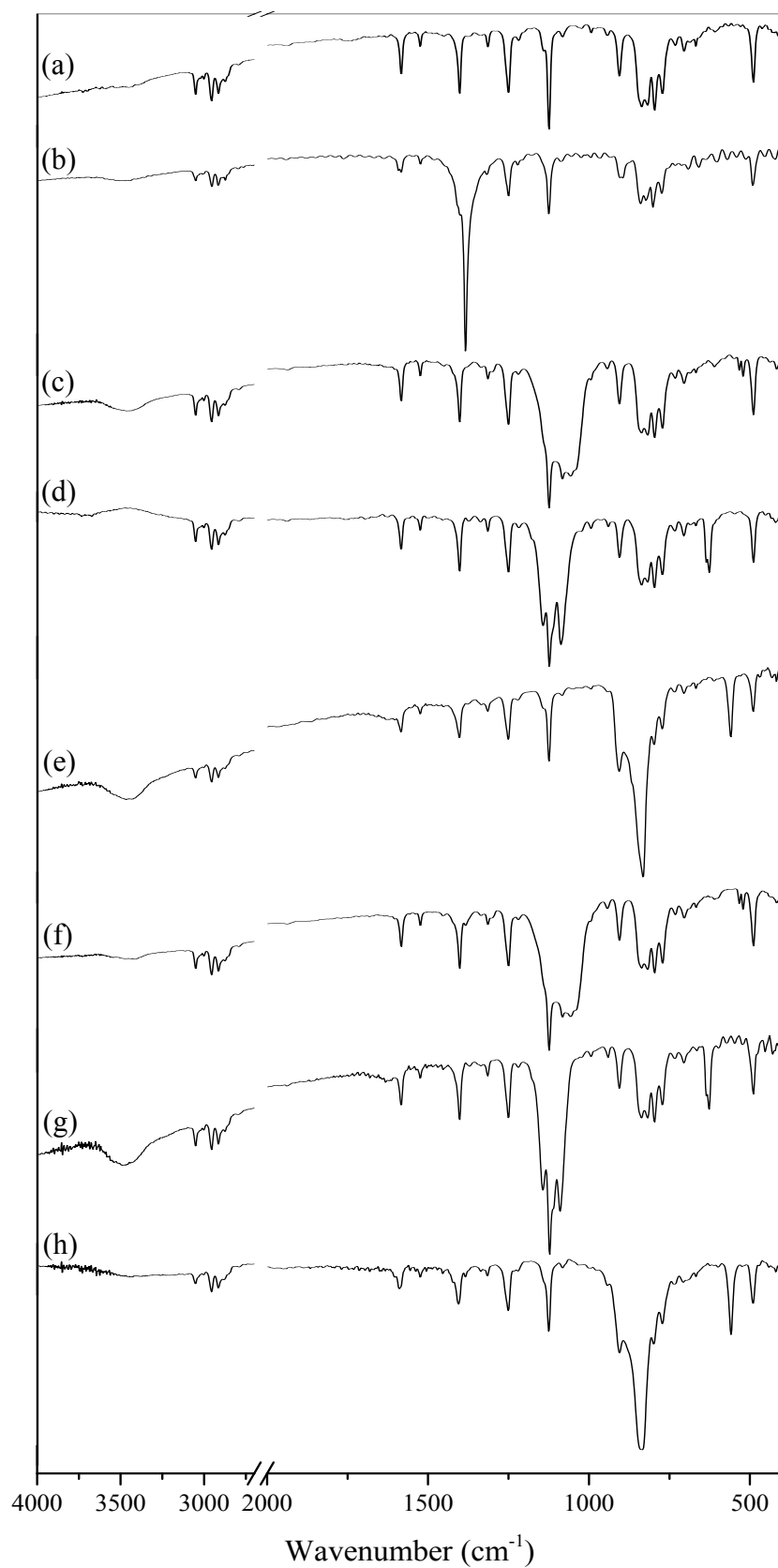


Fig. S3 IR spectra for L (a), [AgL]₂(NO₃)₂ (b), [AgL]₂(BF₄)₂ (c), [AgL]₂(ClO₄)₂ (d), [AgL]₂(PF₆)₂·5C₄H₈O₂ (e), [AgL](BF₄) (f), [AgL](ClO₄) (g), and [AgL](PF₆) (h).

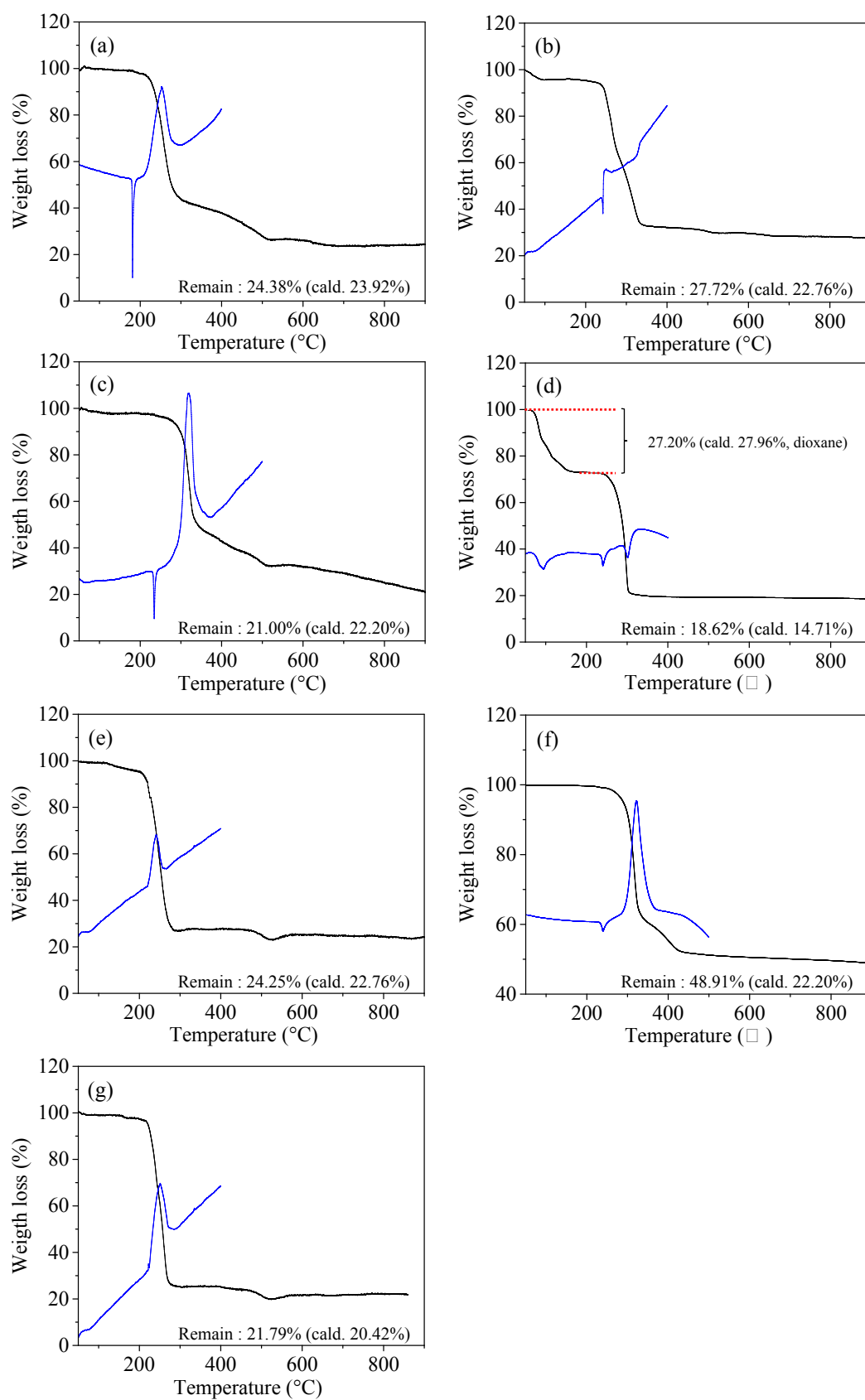


Fig. S4 TGA and DSC curves for $[\text{AgL}]_2(\text{NO}_3)_2$ (a), $[\text{AgL}]_2(\text{BF}_4)_2$ (b), $[\text{AgL}]_2(\text{ClO}_4)_2$ (c), $[\text{AgL}]_2(\text{PF}_6)_2 \cdot 5\text{C}_4\text{H}_8\text{O}_2$ (d), $[\text{AgL}](\text{BF}_4)$ (e), $[\text{AgL}](\text{ClO}_4)$ (f) and $[\text{AgL}](\text{PF}_6)$ (g).

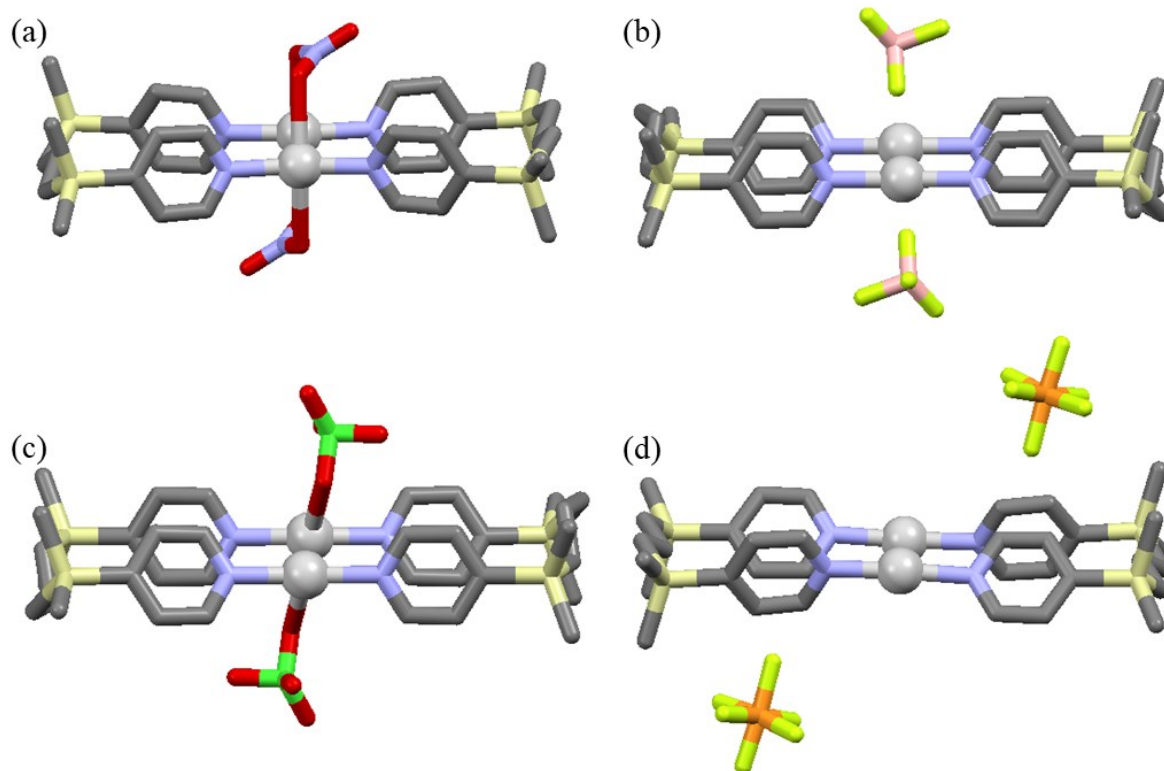


Fig. S5 Crystal structures (side views) of $[\text{AgL}]_2(\text{NO}_3)_2$ (a), $[\text{AgL}]_2(\text{BF}_4)_2$ (b), $[\text{AgL}]_2(\text{ClO}_4)_2$ (c), $[\text{AgL}]_2(\text{PF}_6)_2 \cdot 5\text{C}_4\text{H}_8\text{O}_2$ (d).

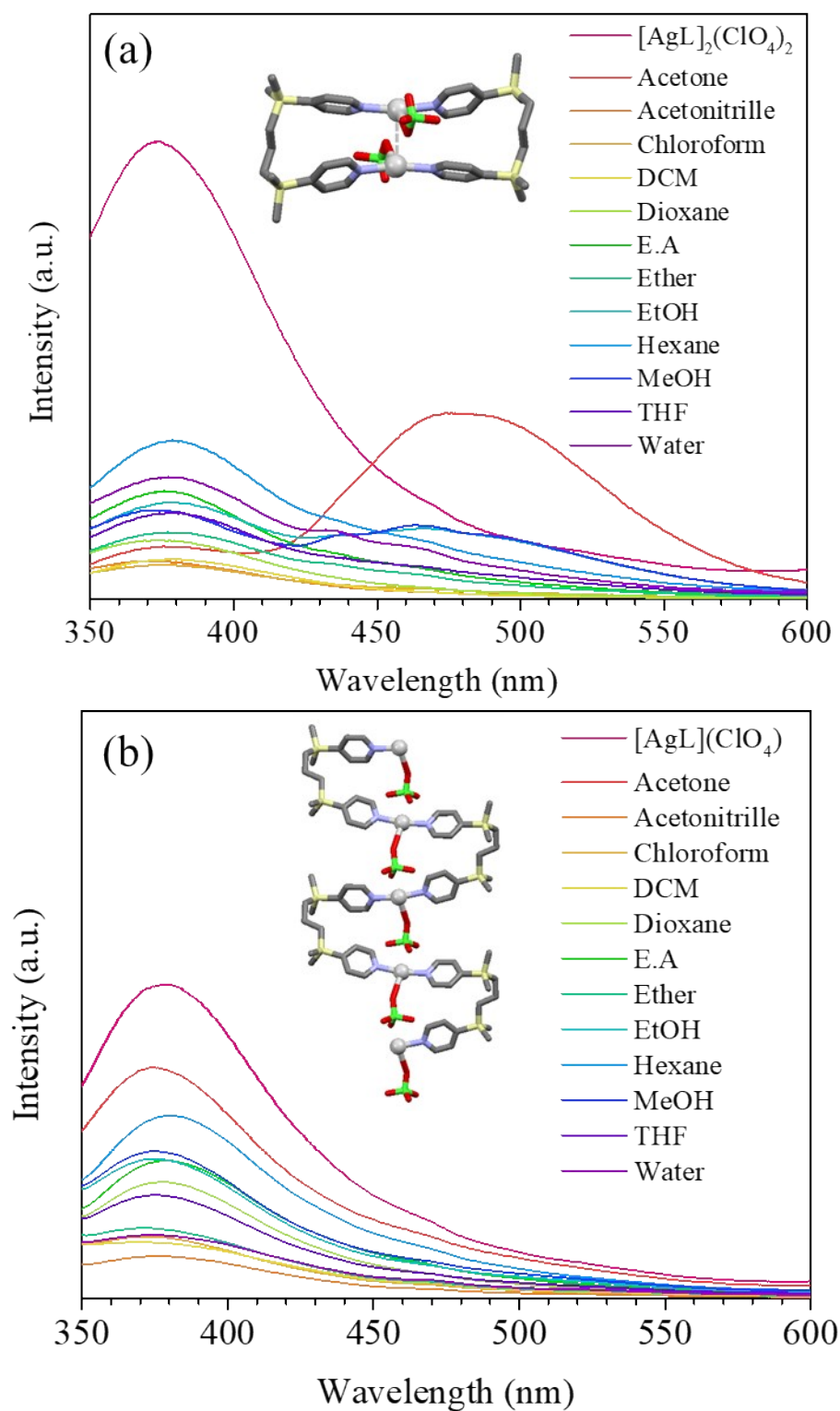


Fig. S6 Solid-state PL spectra for $[\text{AgL}]_2(\text{ClO}_4)_2$ (top, a) and $[\text{AgL}](\text{ClO}_4)$ (bottom, b) upon additions of a drop of solvent at $\lambda_{\text{ex}} = 321$ nm.