Electronic supplementary information (ESI) for:

## Solvothermal synthesis, crystal structures and photoluminescence properties of the novel Cd/X/ $\alpha$ , $\omega$ -bis(benzotriazole)alkane hybrid family

(X = CI, Br and I)

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## **Caption for Figures**

Fig. S1. XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 1.

Fig. S2. XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 2.

Fig. S3. XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 3.

Fig. S4. XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 4.

Fig. S5. XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 5.

Fig. S6. XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 6.

Fig. S7. XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 7.

Table S1. TG results of complexes 1 - 7.



Fig. S1 XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 1.



Fig. S2 XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 2.



Fig. S3 XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 3.

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Fig. S4 XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 4.



Fig. S5 XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 5.



Fig. S6 XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 6.

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Fig. S7 XRPD (top), IR (middle) and TG (black)/DTA (blue) (bottom) curves for 7.

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Complexes	Temperature	Weight losses		Assignments
	(°C)	Exptl (%)	Calcd (%)	- Assignments
1	285—985	96.9	100	removal of L1 ligands and
				sublimation of new-formed CdI <sub>2</sub>
2	275—850	72.4	75.0	removal of L1 ligands and bromide
				atoms
3	335—830	96.7	100	removal of L1 ligands and
				sublimation of new-formed $CdCl_2$
4	290—836	84.2	82.5	removal of L2 ligands and iodide
				atoms
5	290—836	96.6	100	removal of L3 ligands and
				sublimation of new-formed CdBr <sub>2</sub>
6	300—836	97.0	100	removal of L4 ligands and
				sublimation of new-formed CdBr <sub>2</sub>
7	300—815	81.0	83.6	removal of L4 ligands and iodide
				atoms

Table S1 TG results of complexes 1-7.