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Structural Variability of Cd(II) and Co(II) Mixed-ligand Coordination Polymers: Effect of Ligand Isomerism and Metal-to-Ligand Ratio

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Caption to Schemes

Scheme S1. Coordination modes of H$_2$L1, HL1$, H$_2$L2, H$_2$L3$ ligands in complexes 1-7.

Scheme S2. Coordination modes of suc$^{2-}$ ligands in complexes 1-5.
Scheme S1

Scheme S2
Caption to figures

Figure S1. View of a 2-D layer in 1 parallel to the ac-plan formed by hydrogen-bonding and π-π stacking interactions. The blue and yellow dashed lines represent the hydrogen-bonding and π-π interactions, respectively.

Figure S2. View of a 2-D layer in 2 along the c-axis formed by hydrogen-bonding interactions between amino groups from terminal ligands and carboxylate oxygen atoms from the adjacent chains. The blue dashed lines represent the hydrogen-bonding interactions.

Figure S3. View of the ABAB packing mode of 3.

Figure S4. View of a 2-D sheet in 6 parallel to the ac-plan formed by hydrogen-bonding interactions between the carboxylate groups, coordination aqua molecules and lattice water molecules. The H$_2$L3 ligands are omitted for clarity. The green dashed lines represent the hydrogen-bonding interactions.

Figure S5. The view of alternation of right- and left-handed helices in 7 along the a-axis. The green dashed lines represent the hydrogen-bonding interactions.

Figure S6. TG curves for compounds 1-3.

Figure S7. TG curves for compounds 4-5.

Figure S8. TG curves for compounds 6-7.
Figure S9. The XPRD patterns of compounds 1-7.

Figure S10. Emission spectra of ligand H₂L₁ and compounds 1–3 in the solid state at room temperature.

Figure S11. Emission spectra of ligands H₂L₂, H₂L₃ and compounds 4 and 5 in the solid state at room temperature.
Figure S1.
Figure S2.
Figure S3.

Figure S4.
Figure S5.
Figure S6.

Figure S7.
Figure S8.

![Graph showing weight loss as a function of temperature for compounds 6 and 7. The black line represents compound 6, and the red line represents compound 7.](image)

Figure S9.

**Compound 1**

![NMR spectrum of compound 1. The spectrum is labeled as-asynthesized.](image)
Compound 2

<table>
<thead>
<tr>
<th>2θ / °</th>
<th>rehydrated</th>
<th>dehydrated</th>
<th>as-synthesized</th>
<th>simulated</th>
</tr>
</thead>
</table>

Compound 3

| 2θ / ° | rehydrated | dehydrated | as-synthesized |
|--------|------------|------------|----------------|------------|
Compound 4

Rehydrated

Dehydrated

As-synthesized

Simulated

$2\theta / {}^\circ$

5 10 15 20 25 30 35 40

Compound 5

Rehydrated

Dehydrated

$2\theta / {}^\circ$
Compound 6

\[ 2\theta / ^\circ \]

as-synthesized

simulated

Compound 7

as-synthesized
Figure S10.

2θ / °

Figure S11.