## Crosslinking of the Pd(acacCN)\_2 building unit with Ag(I) salts: dynamic 1D polymers and an extended 3D network $^\dagger$

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**Supplementary Information** 

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## List of Figures

| <b>S</b> 1 | Displacement ellipsoid plot of the asymmetric unit in 1  | 3 |
|------------|--|---|
| S2         | Displacement ellipsoid plot of the asymmetric unit in $2\alpha$  | 3 |
| <b>S</b> 3 | Displacement ellipsoid plot of 1D chain in $2\beta$  | 4 |
| S4         | Displacement ellipsoid plot of the asymmetric unit in $3\alpha$  | 4 |
| S5         | Displacement ellipsoid plot of 1D chain in $3\beta$  | 5 |
| <b>S</b> 6 | Displacement ellipsoid plot of the asymmetric unit in 5  | 5 |
| <b>S</b> 7 | Displacement ellipsoid plot of the asymmetric unit in 6  | 6 |
| <b>S</b> 8 | Displacement ellipsoid plot of the asymmetric unit in 7  | 6 |
| S9         | Simulated and experimental powder patterns for wet and dry samples of 2  | 7 |
| S10        | Simulated and experimental powder patterns for wet and dry samples of 3  | 7 |
| S11        | Simulated and experimental powder patterns for wet and dry samples of 5  | 8 |
| S12        | Simulated and experimental powder patterns of 7  | 8 |
| S13        | Ratio <i>I</i> (f/t) as a function of temperature for the sum of all reflection intensities in <b>2</b>  | 9 |
| S14        | Ratio <i>I</i> (f/t) as a function of temperature for the sum of all reflection intensities in <b>3</b>  | 9 |
| S15        | Intensity of individual reflections $hkl$ , $h+k = 2n+1$ in <b>2</b> as a function of temperature  | 0 |
| S16        | Intensity of individual reflections $hkl$ , $h+k = 2n+1$ in <b>3</b> as a function of temperature  | 0 |
| S17        | Intensity of individual reflections $hkl$ , $h+k = 2n+1$ in <b>4</b> as a function of temperature. $\dots \dots \dots$ | 1 |
| S18        | <sup>19</sup> F NMR spectrum of compound 4 in $D_2O_2$   | 2 |



Fig. S1 Displacement ellipsoid plot of the asymmetric unit in 1. Ellipsoids are drawn at 75 % probability and hydrogen atoms are omitted for clarity.



Fig. S2 Displacement ellipsoid plot of the asymmetric unit in  $2\alpha$ . Ellipsoids are drawn at 75 % probability and hydrogen atoms are omitted for clarity.



Fig. S3 Displacement ellipsoid plot of 1D chain in  $2\beta$ . Ellipsoids are drawn at 50 % probability and hydrogen atoms are omitted for clarity. Symmetry operators: i = 2-x, y, 0.5-z; ii = 1-x, y, 1.5-z.



Fig. S4 Displacement ellipsoid plot of the asymmetric unit in  $3\alpha$ . Ellipsoids are drawn at 75 % probability and hydrogen atoms are omitted for clarity.



**Fig. S5** Displacement ellipsoid plot of the 1D chain in  $3\beta$ . Ellipsoids are drawn at 50 % probability and hydrogen atoms are omitted for clarity. Symmetry operators: i = 2-x, y, 0.5-z; ii = 1-x, y, 1.5-z.



Fig. S6 Displacement ellipsoid plot of the asymmetric unit in 5. Ellipsoids are drawn at 75 % probability and hydrogen atoms are omitted for clarity.



Fig. S7 Displacement ellipsoid plot of the asymmetric unit in 6. Ellipsoids are drawn at 75 % probability and hydrogen atoms are omitted for clarity.



Fig. S8 Displacement ellipsoid plot of the asymmetric unit in 7. Ellipsoids are drawn at 75 % probability and hydrogen atoms are omitted for clarity.



Fig. S9 Simulated and experimental powder patterns for wet and dry samples of 2.

![](_page_6_Figure_2.jpeg)

Fig. S10 Simulated and experimental powder patterns for wet and dry samples of 3.

![](_page_7_Figure_0.jpeg)

Fig. S11 Simulated and experimental powder patterns for wet and dry samples of 5.

![](_page_7_Figure_2.jpeg)

Fig. S12 Simulated and experimental powder patterns of 7.

![](_page_8_Figure_0.jpeg)

Fig. S13 Ratio I(f/t) as a function of temperature for the sum of all reflection intensities in 2. In this preliminary experiment, the phase transition temperature was determined approximately.

![](_page_8_Figure_2.jpeg)

Fig. S14 Ratio I(f/t) as a function of temperature for the sum of all reflection intensities in 3. In this preliminary experiment, the phase transition temperature was determined approximately.

![](_page_9_Figure_0.jpeg)

Fig. S15 Intensity of individual reflections hkl, h+k = 2n+1 in 2 as a function of temperature.

![](_page_9_Figure_2.jpeg)

Fig. S16 Intensity of individual reflections hkl, h+k = 2n+1 in 3 as a function of temperature.

![](_page_10_Figure_0.jpeg)

**Fig. S17** Intensity of individual reflections hkl, h+k = 2n+1 in **4** as a function of temperature.

![](_page_11_Figure_0.jpeg)

Fig. S18  $^{19}$ F NMR spectrum of compound 4 in D<sub>2</sub>O.