

Recyclable poly-m-phenylenediamine selectively recovers gold from acidic solutions

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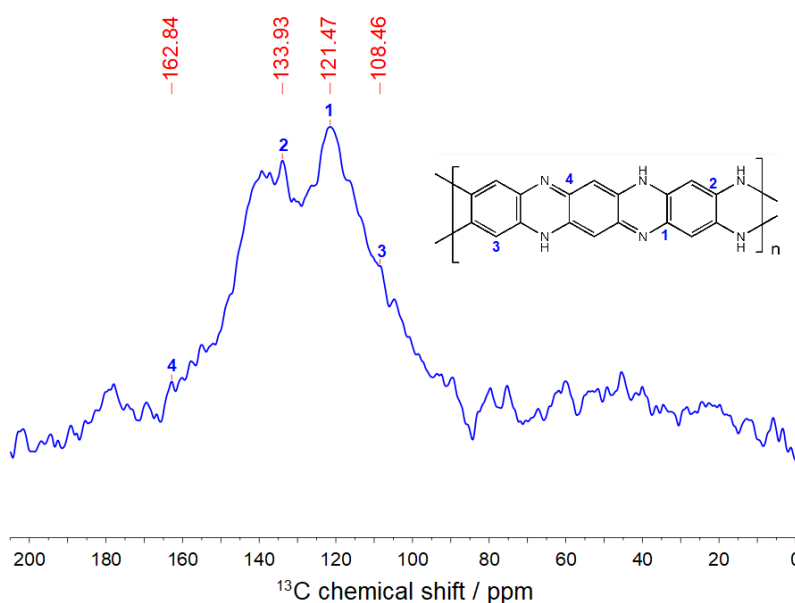


Fig. S1 Solid-state ^{13}C NMR spectrum and the inferred structure of PmPD.

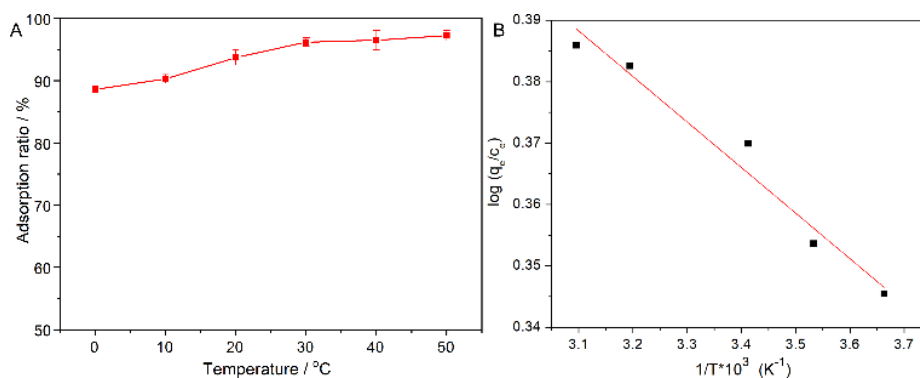


Fig. S2 (A) Interfere of solution temperature on the behavior of PmPD recovering Au(III), (B)

$$\text{Plot of } \log \frac{q_e}{c_e} \text{ versus } 1/T.$$

	Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV): 19.7	Peak 1: 19.7	100.0	5.64
Zeta Deviation (mV): 5.40	Peak 2: 0.665	1.1	1.81
Conductivity (mS/cm): 0.0148	Peak 3: 0.00	0.0	0.00

Result quality: Good

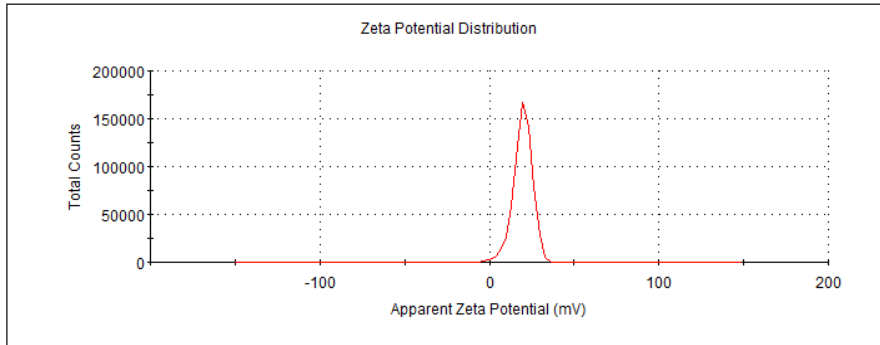


Fig. S3 Zeta potential of PmPD.

	Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV): -28.3	Peak 1: -28.2	100.0	6.68
Zeta Deviation (mV): 6.23	Peak 2: 0.00	0.0	0.00
Conductivity (mS/cm): 0.0171	Peak 3: 0.00	0.0	0.00

Result quality: Good

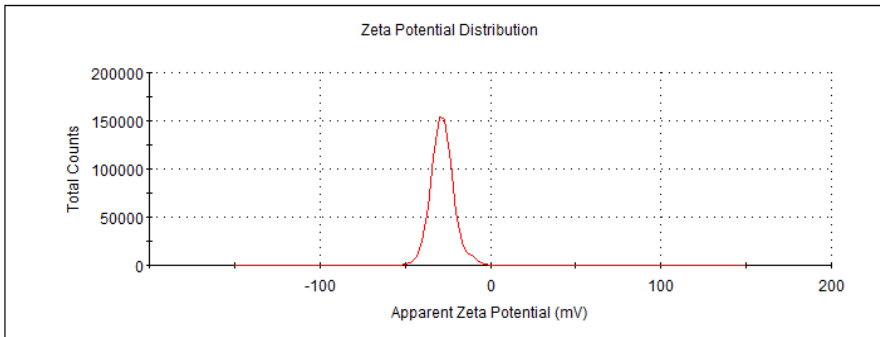


Fig. S4 Zeta potential of PmPD loaded with Au(III).

	Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV): 23.9	Peak 1: 25.7	89.9	5.67
Zeta Deviation (mV): 8.00	Peak 2: 5.98	10.1	3.61
Conductivity (mS/cm): 0.0650	Peak 3: 0.00	0.0	0.00

Result quality : Good

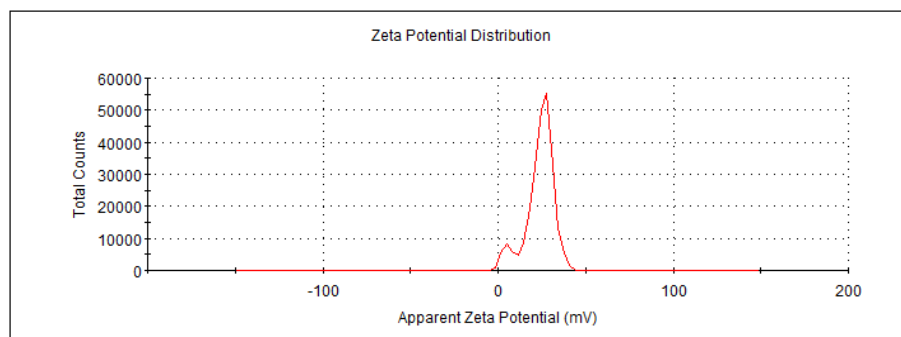


Fig. S5 Zeta potential of the regenerated PmPD.

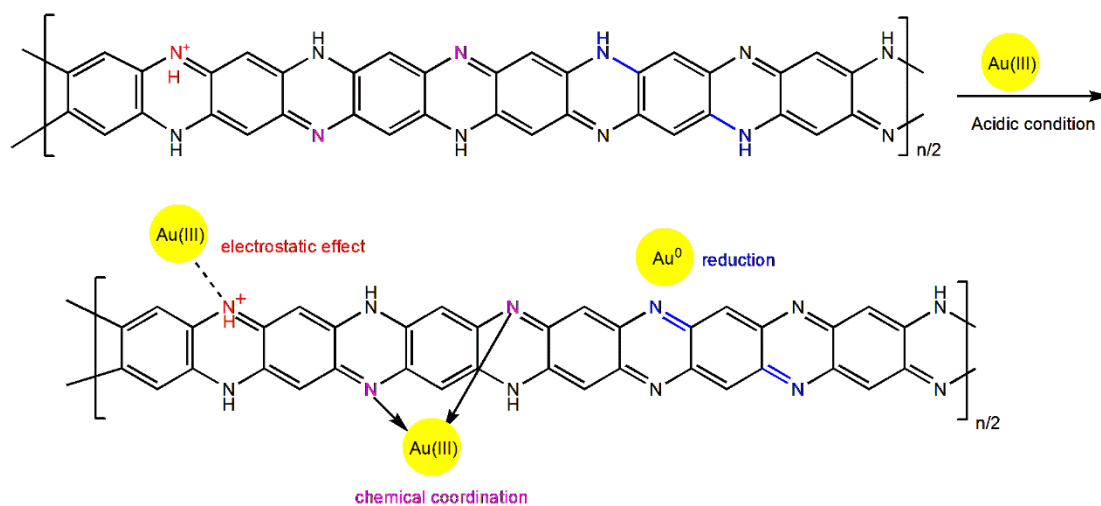


Fig. S6 Roadmap of Au(III) recycling by PmPD.

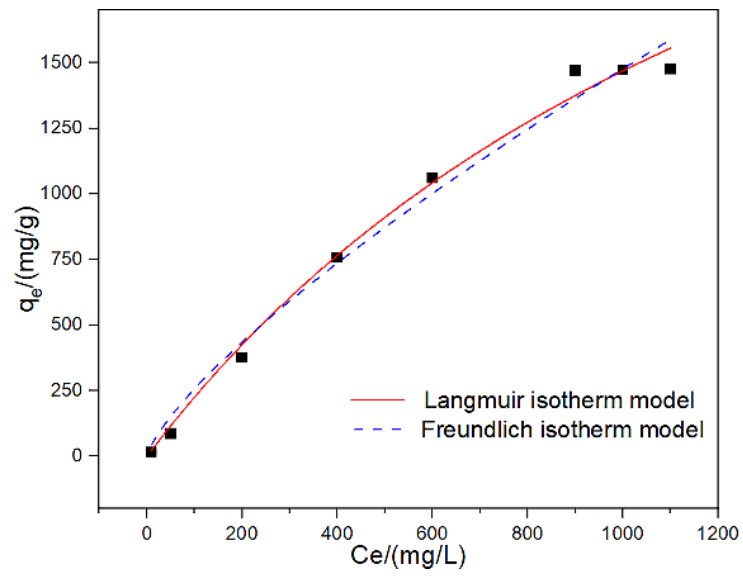


Fig. S7 Influence of time on the performance of PmPD recovering Au(III).