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Recyclable poly-m-phenylenediamine selectively recovers gold

from acidic solutions

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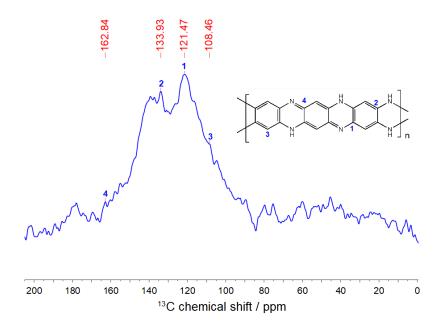


Fig. S1 Solid-state ¹³C NMR spectrum and the inferred structure of PmPD.

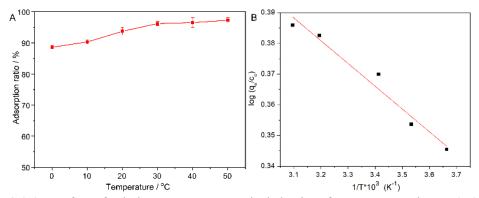


Fig. S2 (A) Interfere of solution temperature on the behavior of PmPD recovering Au(III), (B)

 $[\]frac{q_e}{c_e}$ Plot of \log^{c_e} 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

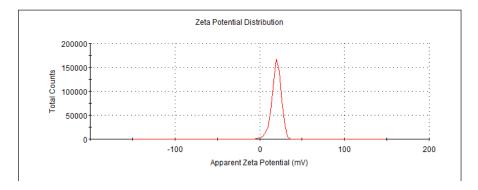


Fig. S3 Zeta potential of PmPD.

		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): 0.017	1 Peak 3:	0.00	0.0	0.00
Result quality : Good	I.			

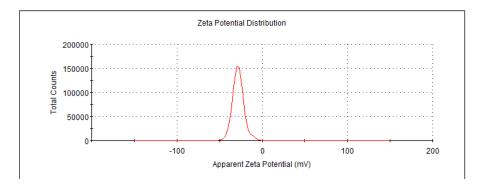


Fig. S4 Zeta potential of PmPD loaded with Au(III).

		Mean (mV)	Area (%)	St Dev (mV)
23.9	Peak 1:	25.7	89.9	5.67
8.00	Peak 2:	5.98	10.1	3.61
0.0650	Peak 3:	0.00	0.0	0.00
	23.9 8.00 0.0650	8.00 Peak 2:	23.9 Peak 1: 25.7 8.00 Peak 2: 5.98	23.9 Peak 1: 25.7 89.9 8.00 Peak 2: 5.98 10.1

Result quality : Good

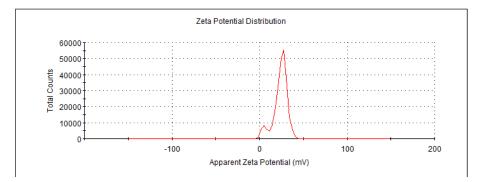


Fig. S5 Zeta potential of the regenerated PmPD.

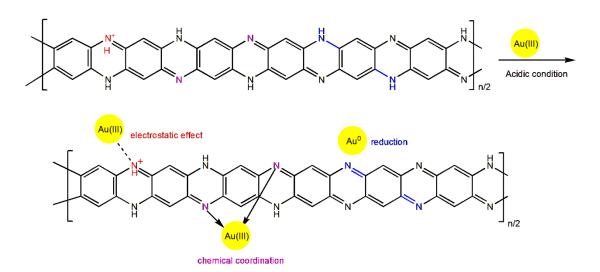


Fig. S6 Roadmap of Au(III) recycling by PmPD.

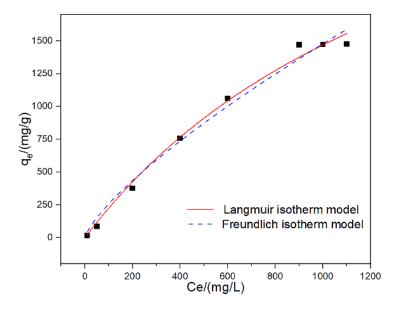


Fig. S7 Influence of time on the performance of PmPD recovering Au(III).