

Supporting information

**A Photo-Responsive Molecular Wire Composed of a Porphyrin
Polymer and a Fullerene Derivative**

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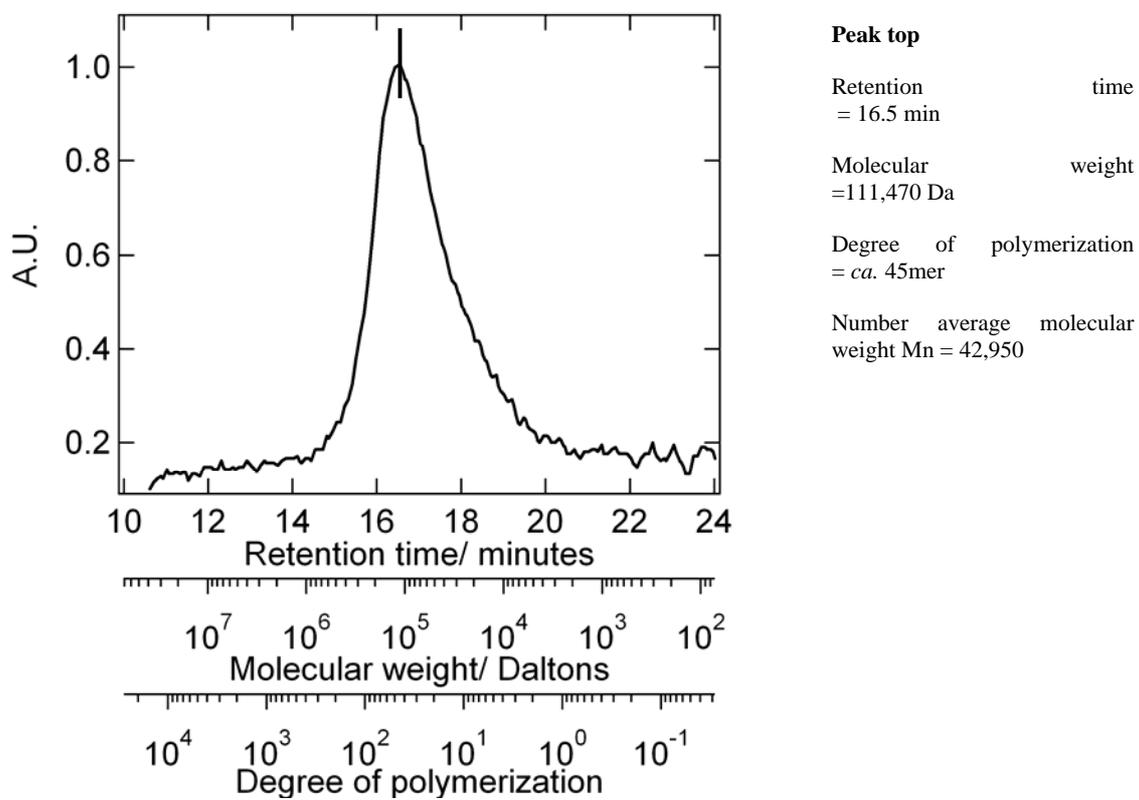


Fig. 1S Analytical GPC data (polystyrene) for dendron protected porphyrin polymers.

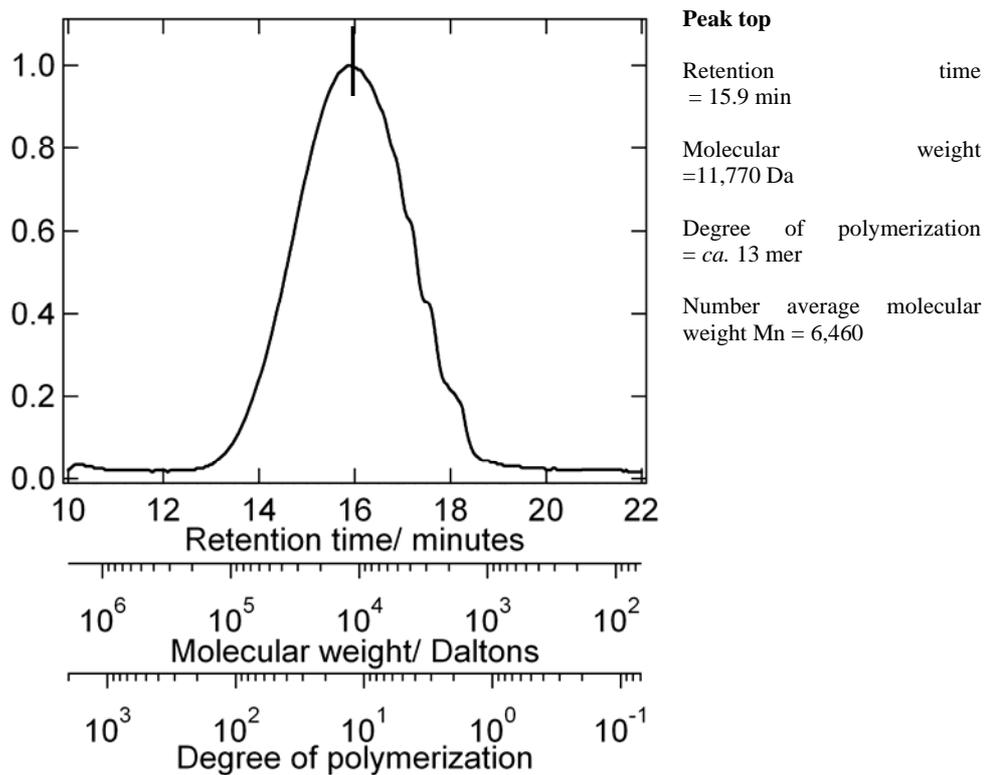


Fig 2S Analytical GPC data (polystyrene) for thiol group capped porphyrin polymers.

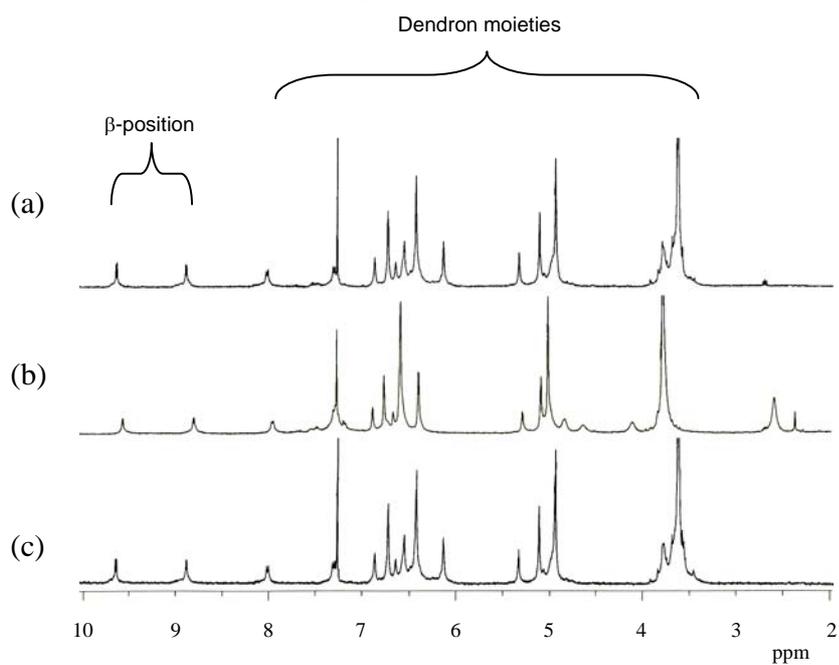


Fig. 3S ¹H NMR spectra in CDCl₃ of (a) porphyrin monomer **3**, (b) a mixture of **3** and fullerene ligands **2**, and (c) a mixture of **1** and unmodified fullerene.

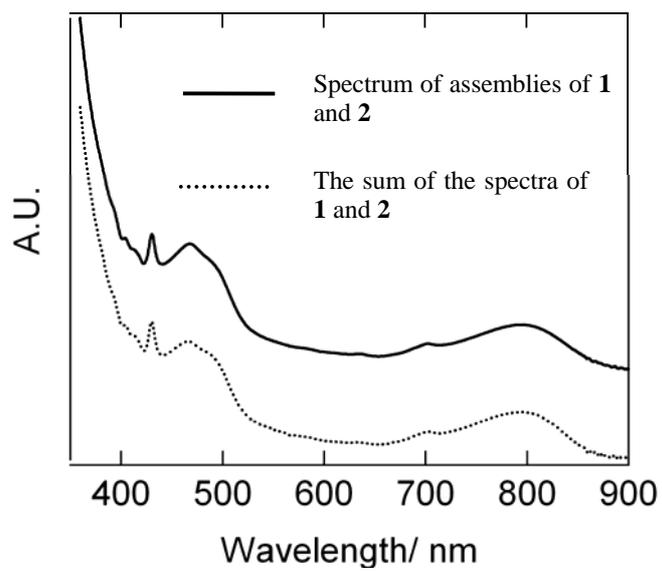


Fig. 4S UV-Vis spectra of assemblies of porphyrin polymer **1** and fullerene ligand **2** (solid line) and the sum of the spectra of **1** and **2** (dotted line).

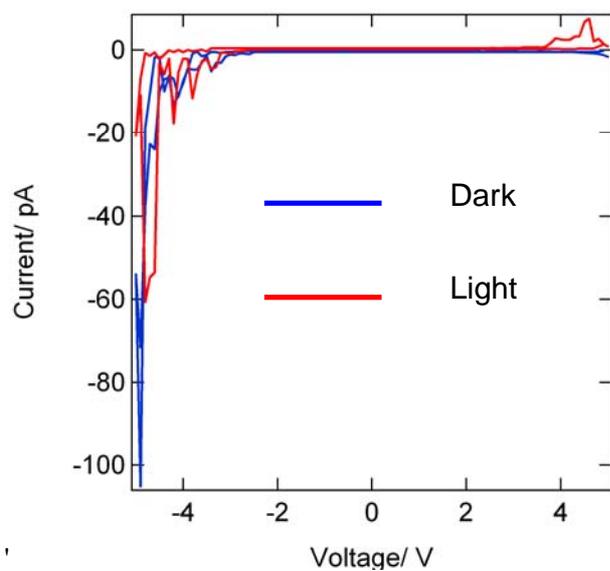
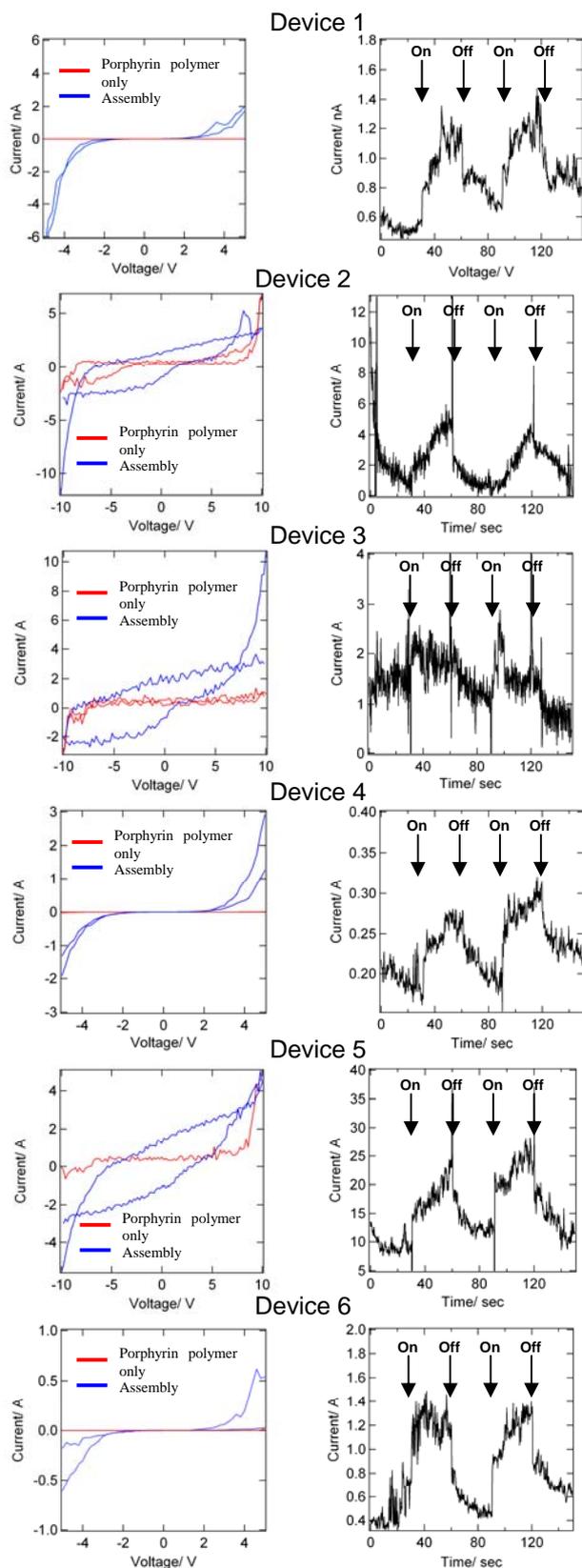


Fig. 5S I-V curves of the devices composed of only porphyrin polymers. *I-V* curves under irradiation light (red lines) and in dark condition (blue lines).

**Fig. 6S** I-V curves and photo-response behaviors of other six devices.

