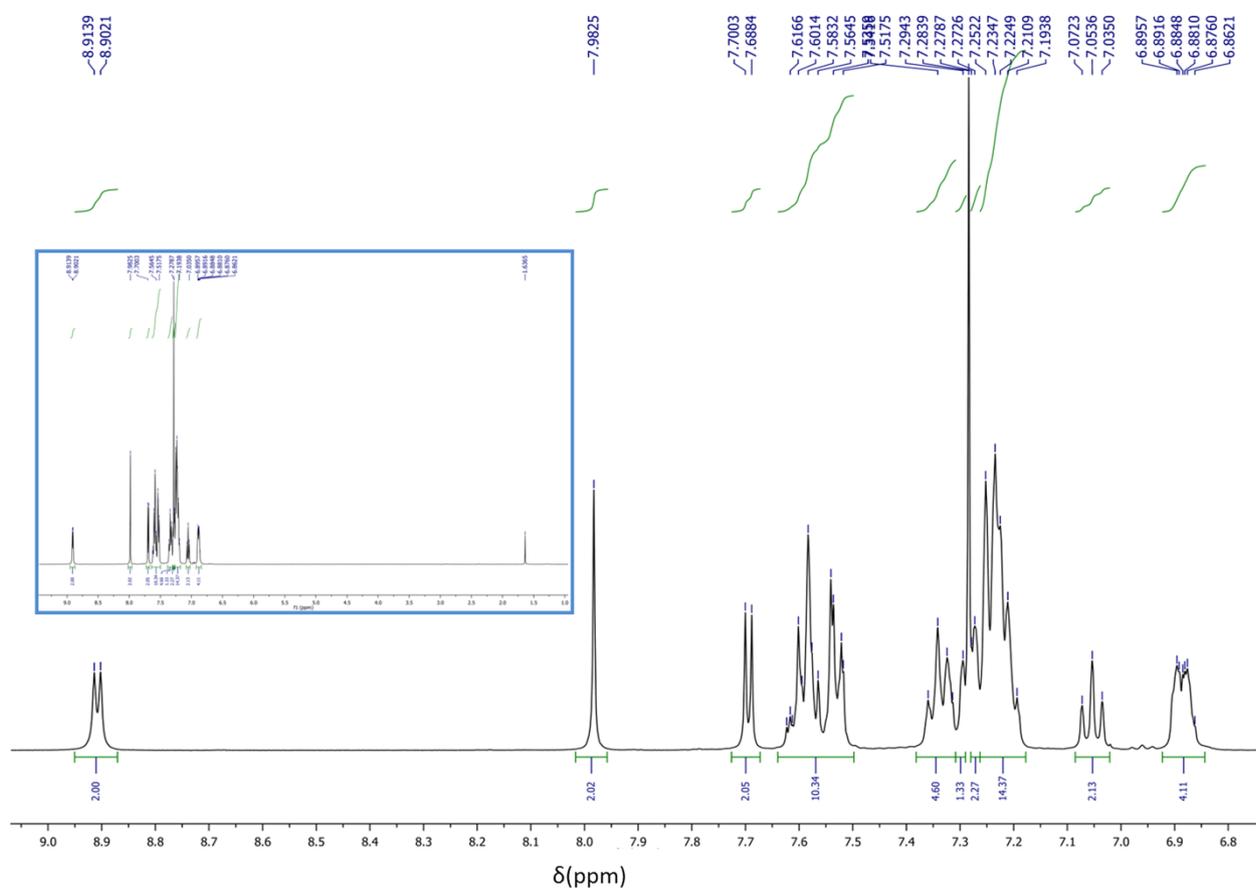


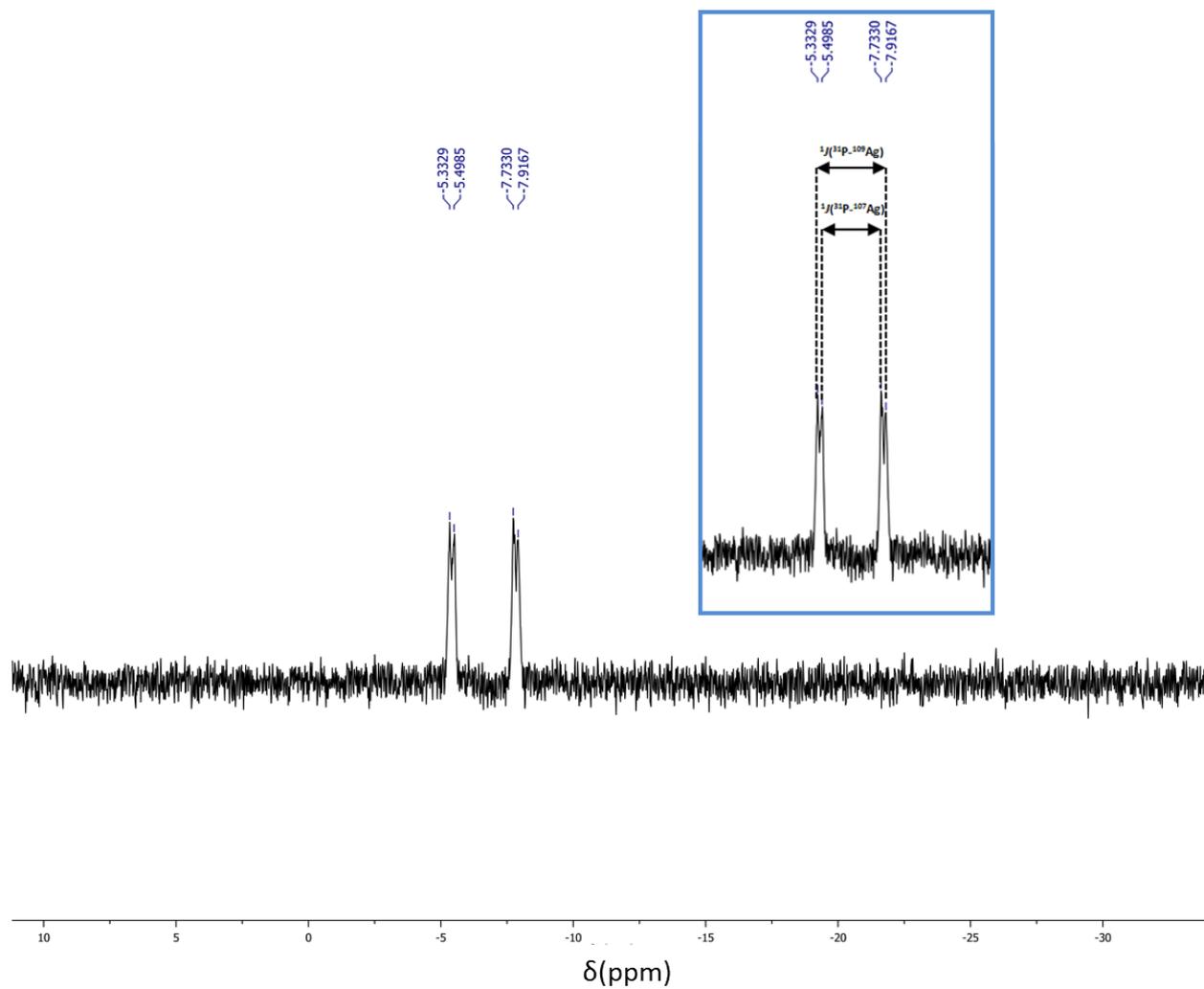
## Supporting Information

### Application of UV-absorbing Silver(I) Luminescent Down Shifter for PTB7 Organic Solar Cells for Enhanced Efficiency and Stability

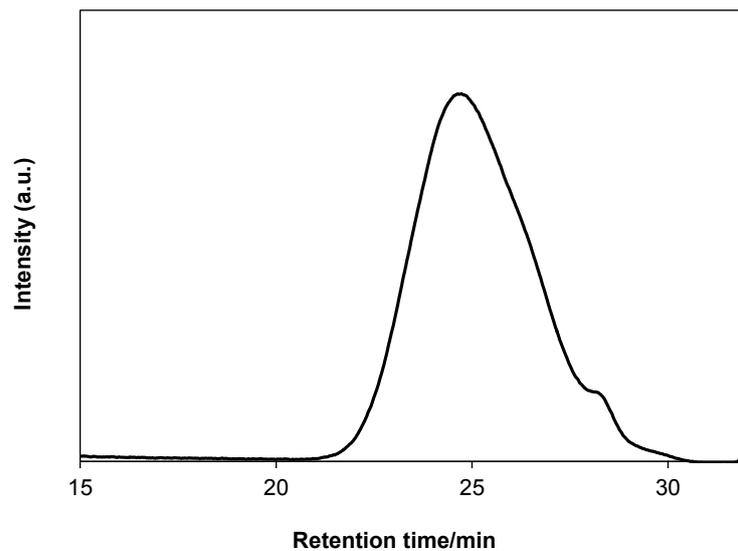
Omar Moudam<sup>a</sup>, Noel Bristow<sup>a</sup>, Shu-Wei Chang<sup>b</sup>, Masaki Horie<sup>b</sup>, Jeff Kettle<sup>a\*</sup>



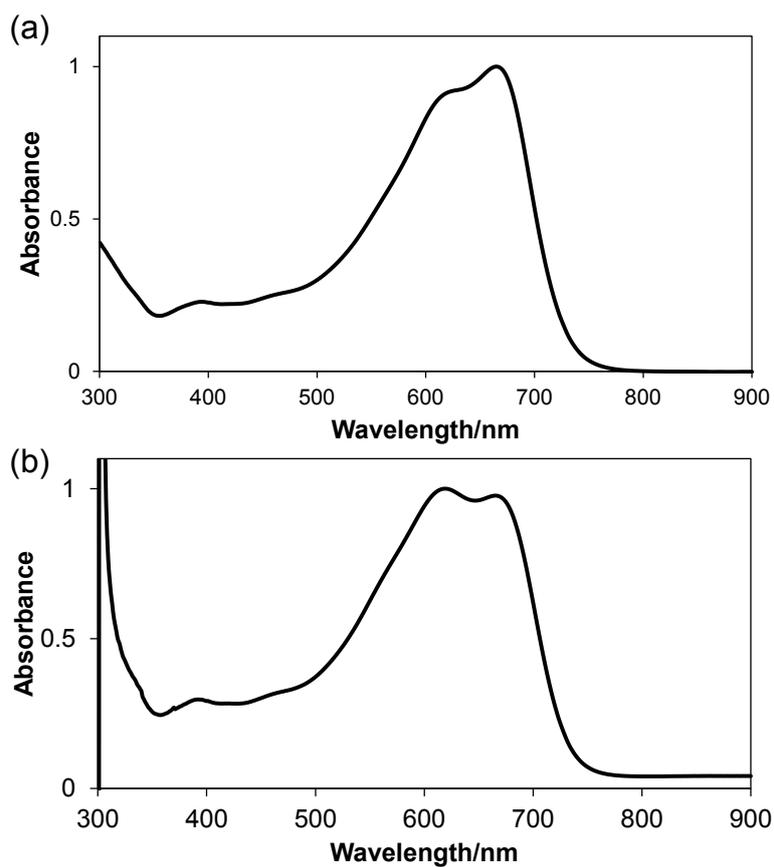
**Figure S1.** <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>, 298 K) of [Ag(POP)(Bphen)](BF<sub>4</sub>) (AgPOP).



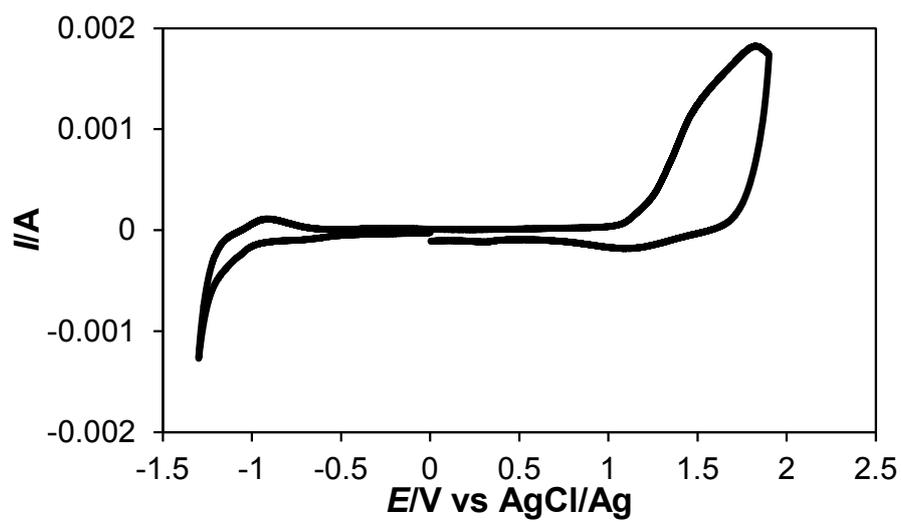
**Figure S2.**  $^{31}\text{P}\{^1\text{H}\}$  NMR spectrum (162 MHz,  $\text{CDCl}_3$ , 298 K) of  $[\text{Ag}(\text{POP})(\text{Bphen})](\text{BF}_4)$  (AgPOP).



**Figure S3.** GPC elution curves. The measurements were carried out using THF as the solvent and calibrated by polystyrene standards.



**Figure S4.** UV-vis spectra of PTB7 in (a) THF solutions and (b) films.



**Figure S5.** Cyclic voltammogram of PTB7 on Pt plate in MeCN solution containing 0.1 M *n*-Bu<sub>4</sub>NPF<sub>6</sub>. Scan rate = 0.10 V/s.