Electronic supplementary information

Fabrication and photoelectric conversion of densely packed C_{60}-ethylenediamine adduct microparticle films-modified electrode covered with electrochemically deposited polythiophene thin-films

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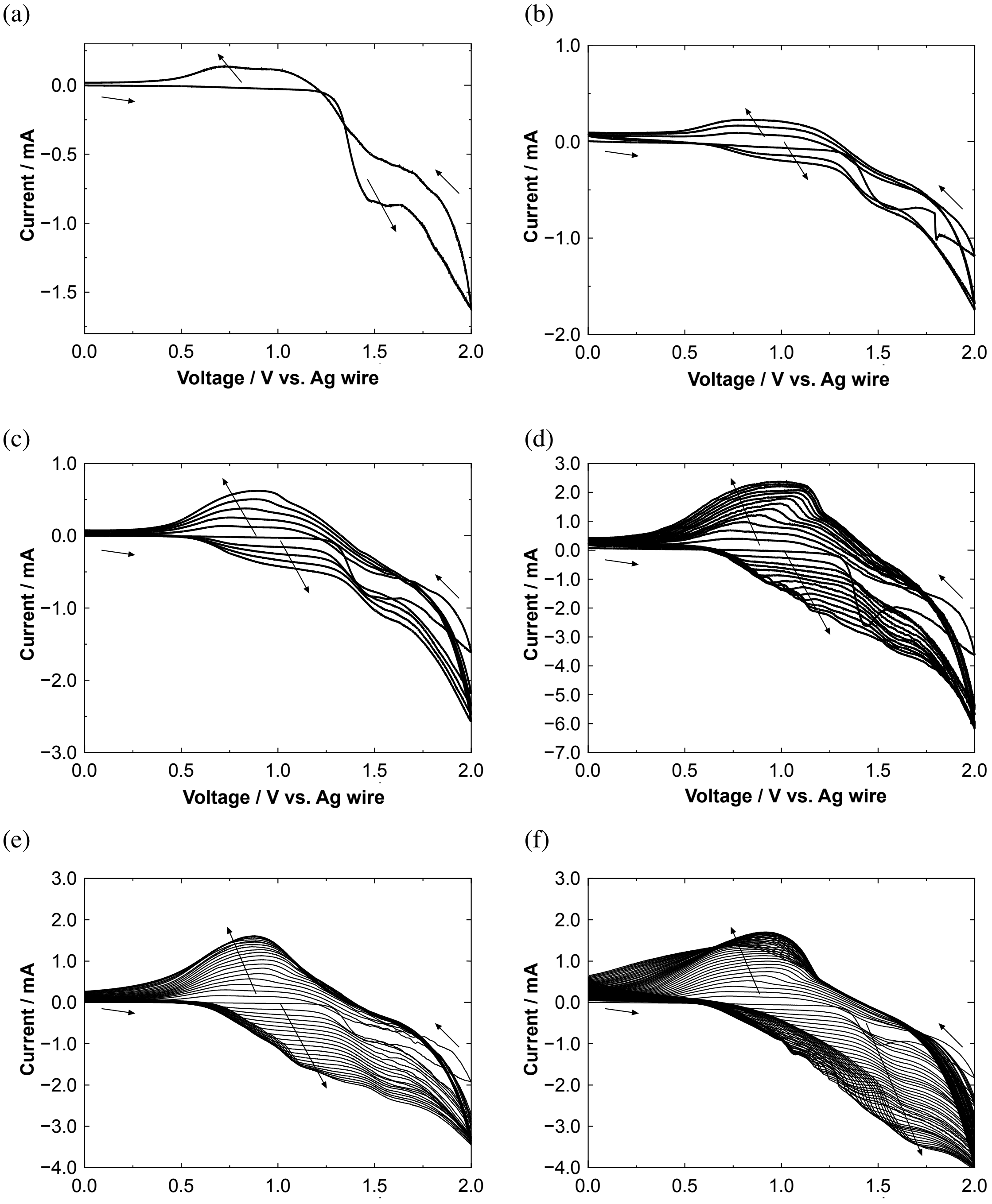


Fig. S1. Cyclic voltammograms of polyBiTh(*n*)/C_{60}PF/PSS/PEI/ITO in electrochemical polymerization of 2,2'-bithiophene; (a) ~ (f) for *n* = 1, 3, 5, 13, 20 and 40, respectively. Voltammogram (e) is also shown in Fig. 2.

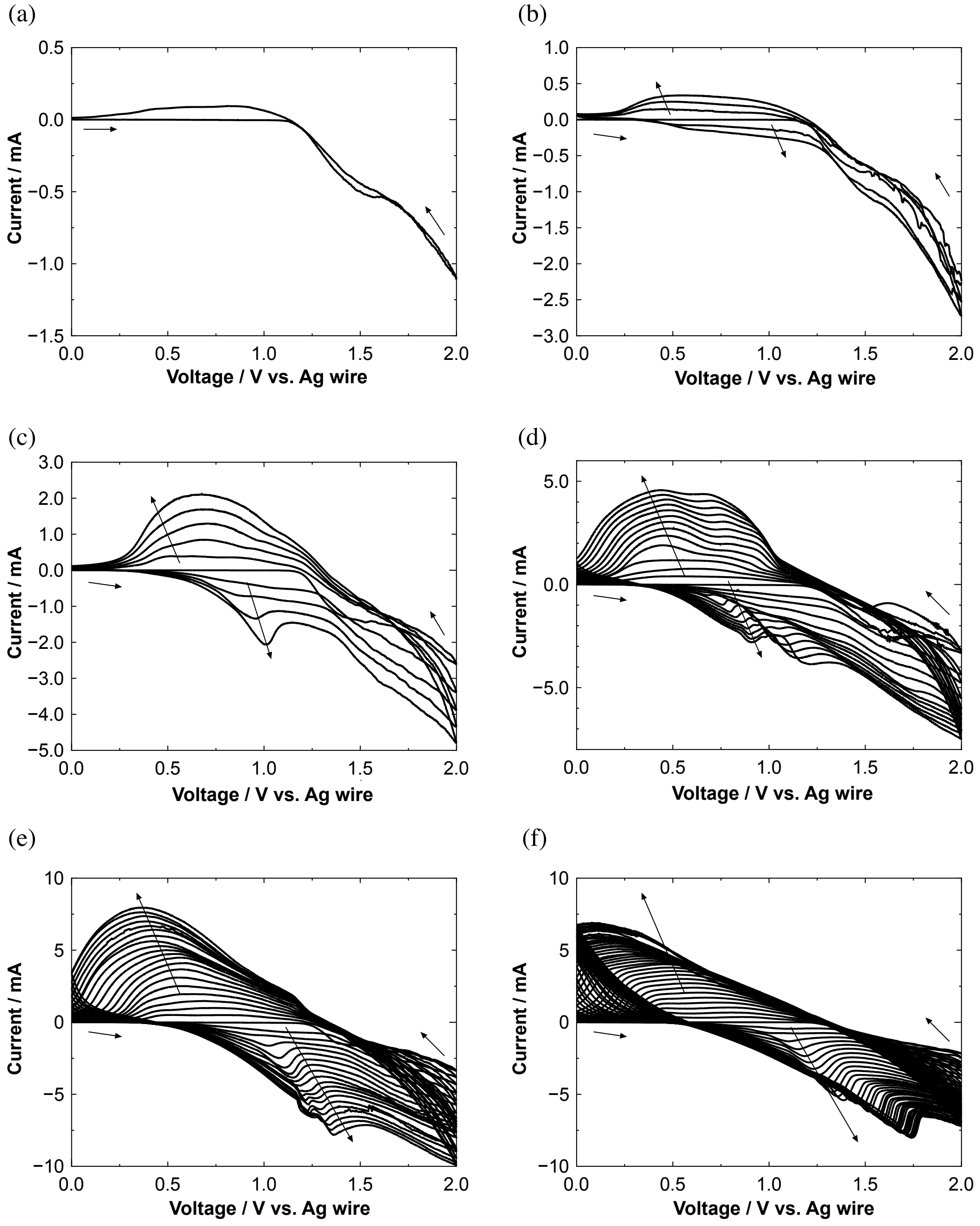


Fig. S2. Cyclic voltammograms of polyBiTh(*n*)/PSS/PEI/ITO in electrochemical polymerization of 2,2’-bithiophene; (a) ~ (f) for n = 1, 3, 5, 13, 20 and 40, respectively.

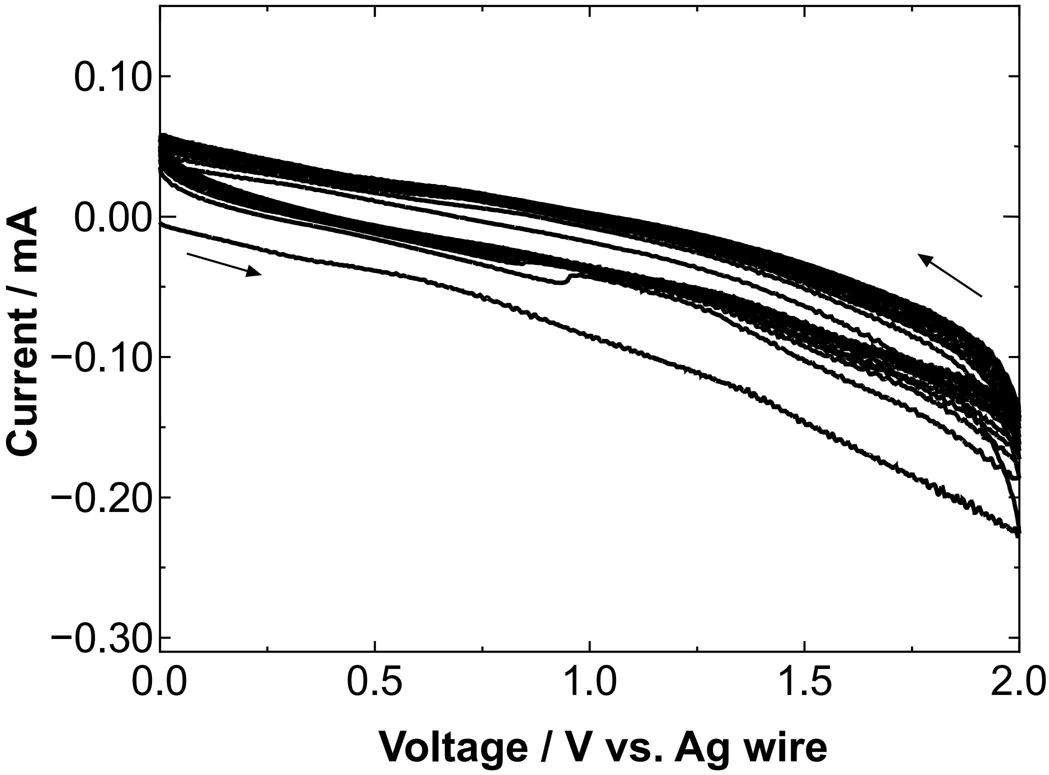


Fig. S3. Cyclic voltammograms of C_{60}PF/PSS/PEI/ITO. Cyclic voltammogram were measured in 1,2–dichloroethane containing 0.1 M *n*-Bu_4NPF_6 as supporting electrolyte at room temperature in 20 cycles.

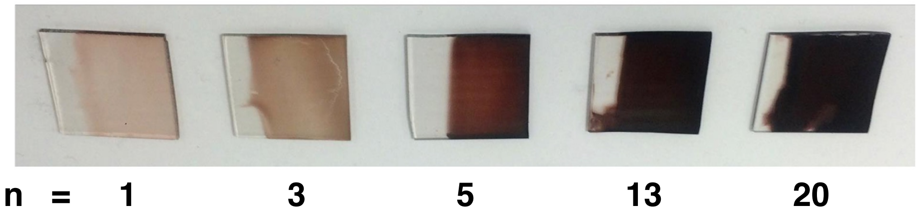


Fig. S4. Photographs of polyBiTh(*n*)/PSS/PEI/ITO (*n* = 1, 3, 5, 13, and 20).

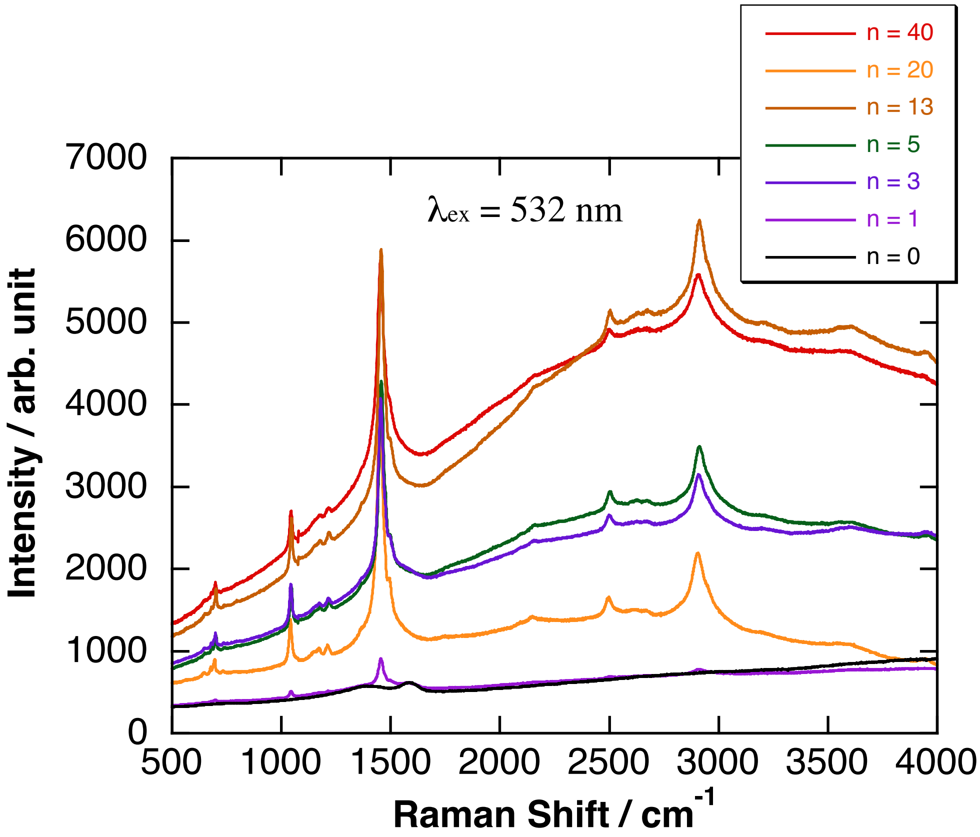


Fig. S5. Raman scattering spectra of polyBiTh(*n*)/C_{60}PF/PSS/PEI/ITO.

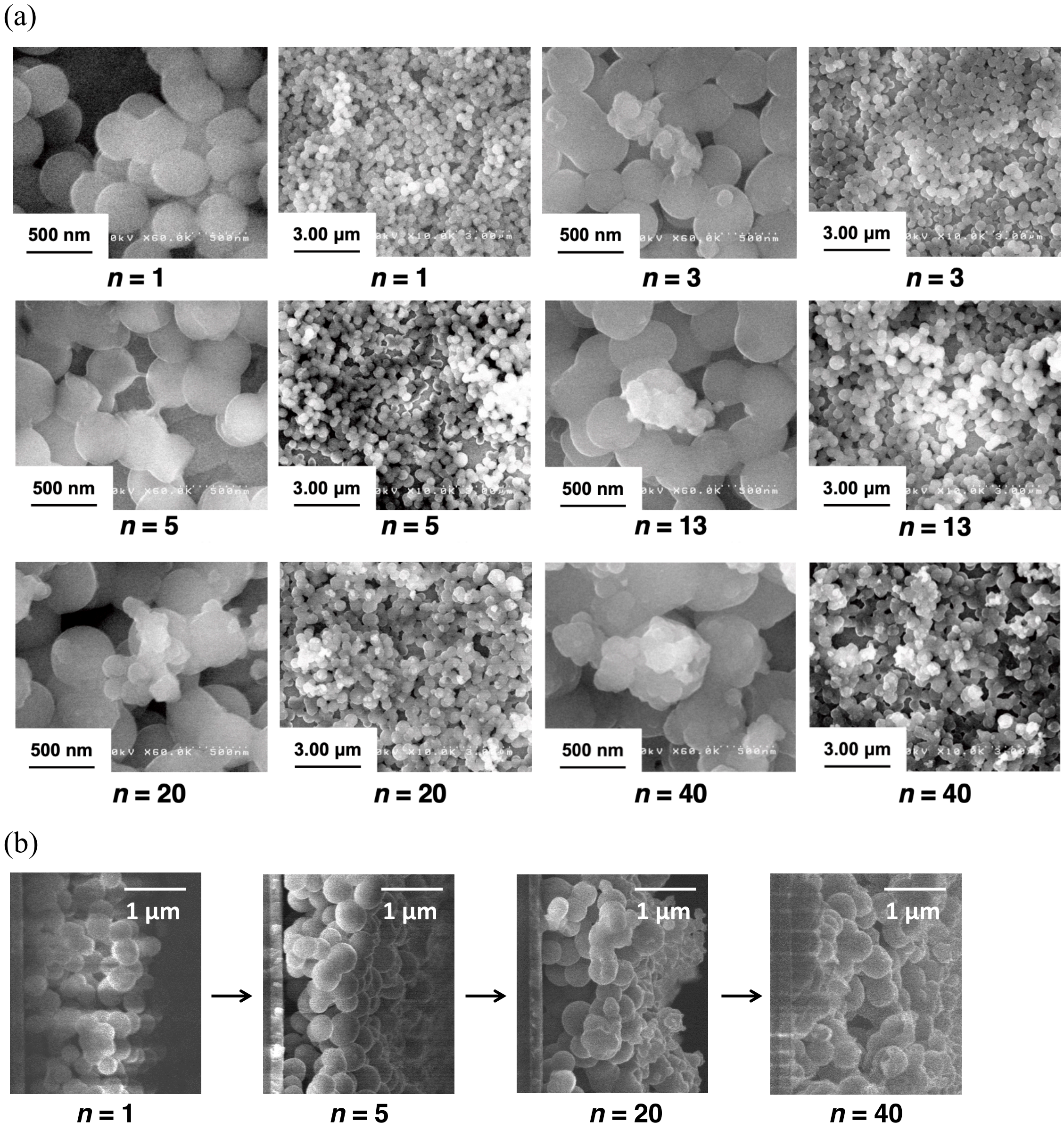
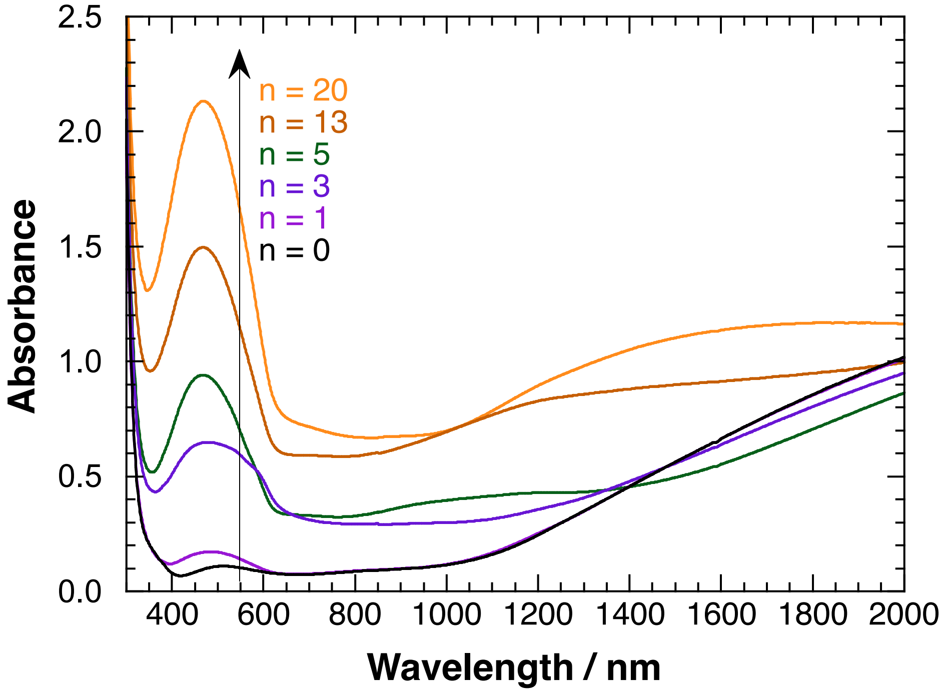


Fig. S6. (a) SEM images of polyBiTh(*n*)/C_{60}PF/PSS/PEI/ITO (*n* = 1, 3, 5, 13, 20, and 40 cycles), and (b) cross-sectional SEM images of polyBiTh(*n*)/C_{60}PF/PSS/PEI/ITO (*n* = 1, 5, 20, and 40 cycles).

(a)



(b)

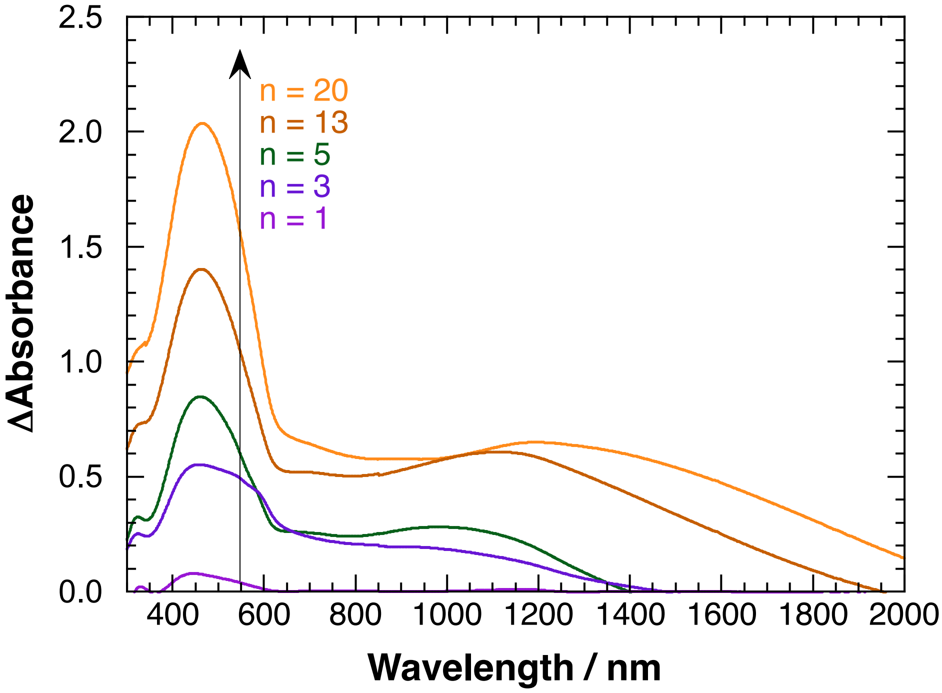


Fig. S7. (a) transmission absorption spectra of polyBiTh(*n*)/PSS/PEI/ITO, and (b) differential transmission absorption spectra of polyBiTh(*n*)/PSS/PEI/ITO after subtraction of PSS/PEI/ITO (*n* = 0) absorption spectra.