Electronic Supplementary Material (ESI) for RSC Advances.

ELECTRONIC SUPPLEMENTARY INFORMATION

Remarkable enhancement of ambient-air electrical conductivity of the perylenediimide π-stacks self-organized in the flexible films of a hydrogen-bonded polymer

Mustafa Supur,*[a] Ayhan Yurtsever[bc] and Ümit Akbey[def]

[a] *Department of Material and Life Science, Graduate School of Engineering, Osaka University, Suita, Osaka 565-0871, Japan*

[b] *Department of Electrical and Electronics Enginerring, Graduate School of Engineering, Osaka University, Suita, Osaka 565-0871, Japan*

[c] *The Institute of Scientific and Industrial Research (SANKEN), Osaka University, 8-1 Mihoga-oka, Ibaraki, Osaka, 567-0047, Japan*

[d] *Aarhus Institute of Advanced Studies (AIAS), Aarhus University, Høegh-Guldbergs Gade 6B, 8000, Aarhus C, Denmark*

[e] *Interdisciplinary Nanoscience Center (iNANO), Aarhus University*
Gustav Wieds Vej 14, 8000, Aarhus C, Denmark

[f] *Leibniz Institute für Molekulare Pharmakologie (FMP), NMR Supported Structural Biology, Robert Roessle Str. 10, 13125, Berlin, Germany*

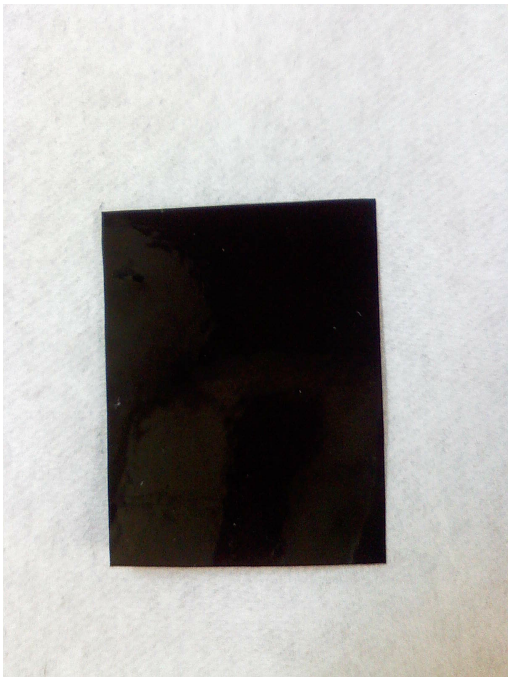

Fig. S1 Photographic image of the PVA film with 30wt.% TAIPDI.

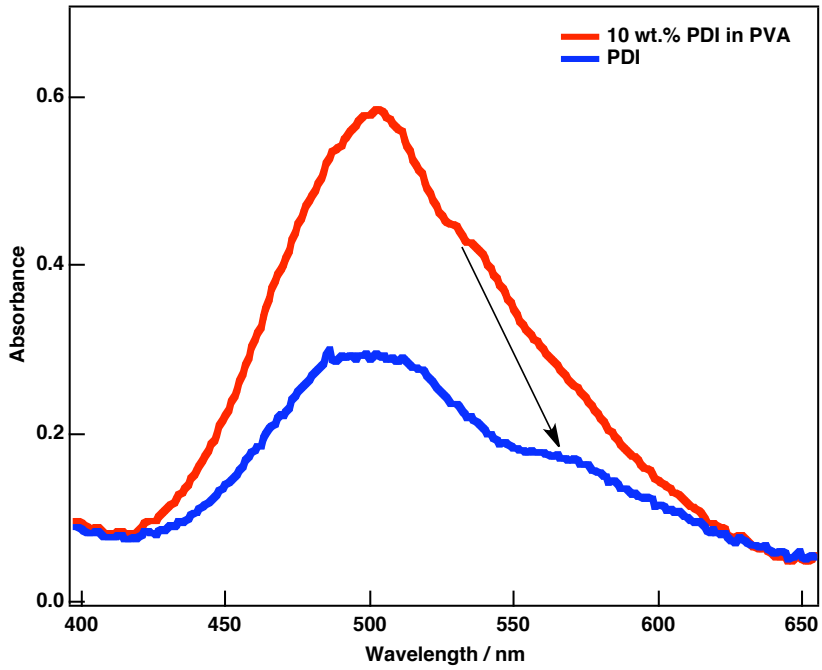

Fig. S2 Absorption spectra of TAIPDI cast on a glass substrate and in PVA.

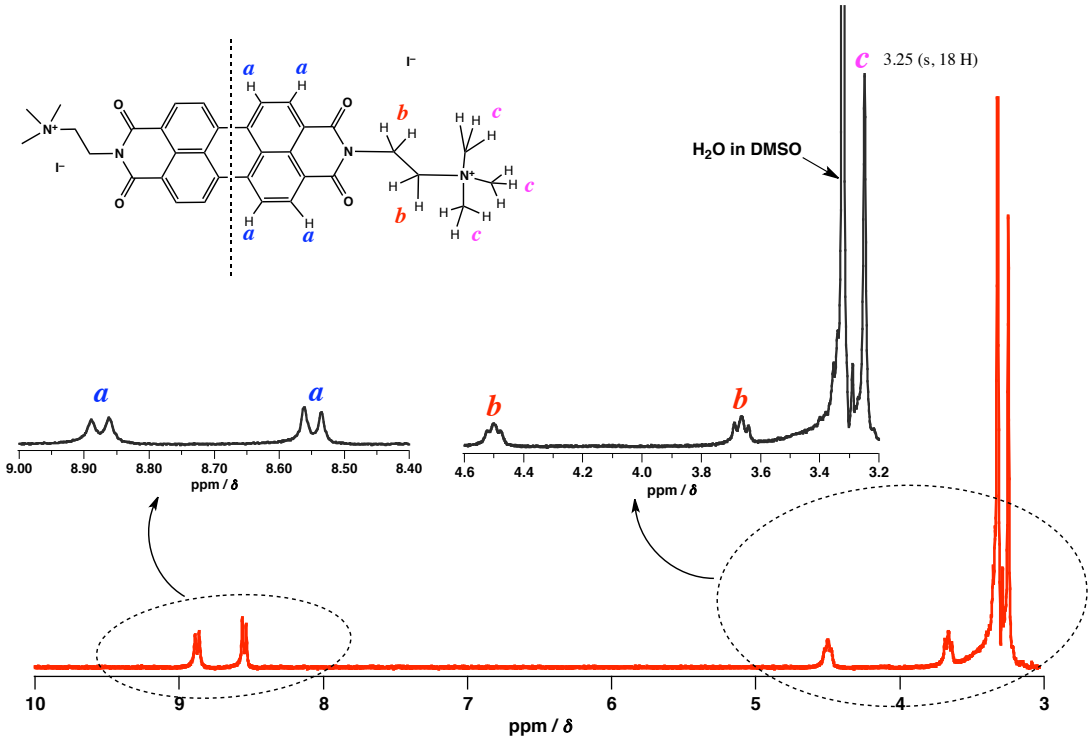

Fig. S3 ^{1}H NMR spectrum of TAIPDI in DMSO-d_6 at room temperature.

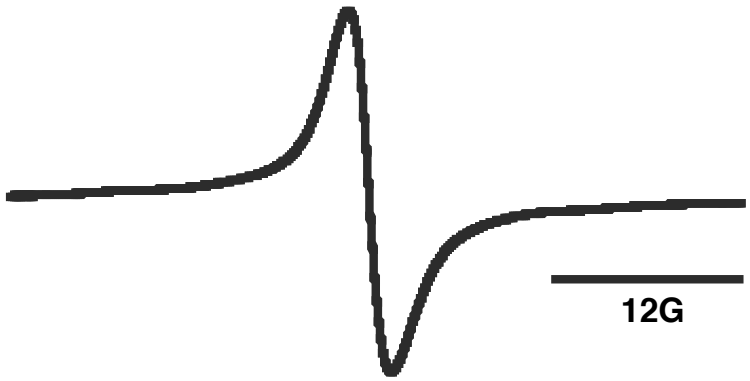

Fig. S4 EPR spectrum of TAIPDI embedded in PVA (30 wt.%) showing signal of the radical anion of TAIPDIs.

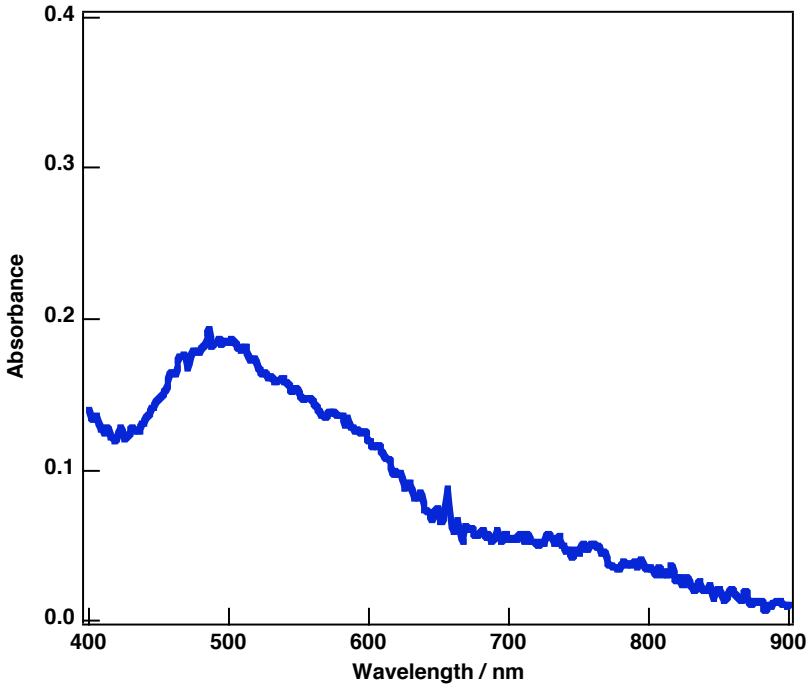

Fig. S5 Absorption spectrum of TAIPDI after 5 min. exposure to the hydrazine vapour.

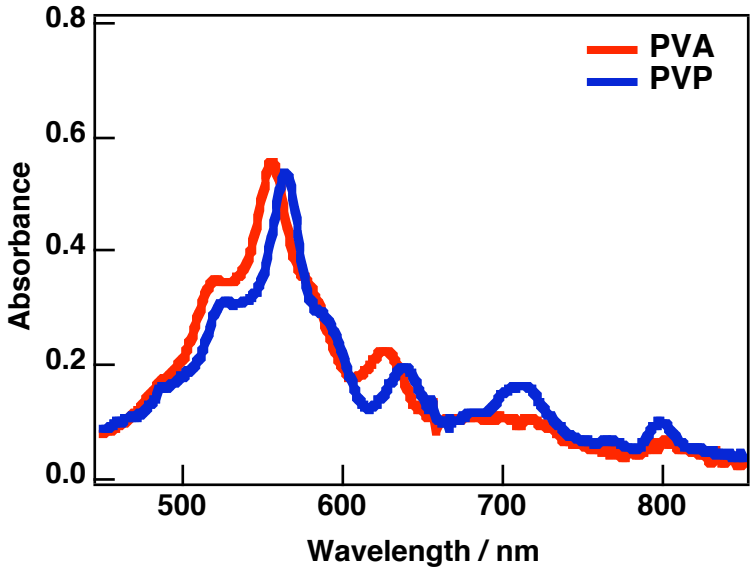

Fig. S6 Absorption spectra of reduced TAIPDI (3.3 wt.%) in PVA and PVP films.

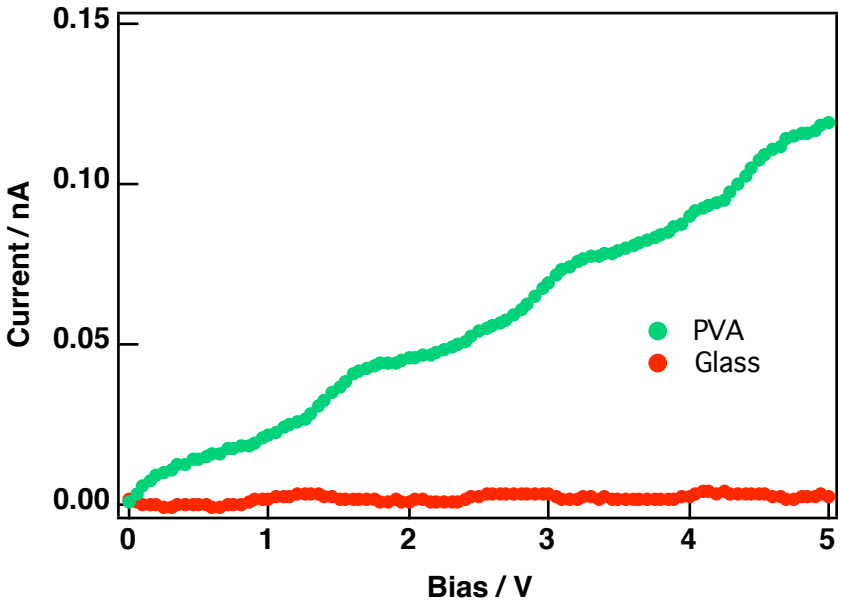

Fig. S7 I-V curves of only PVA and glass.

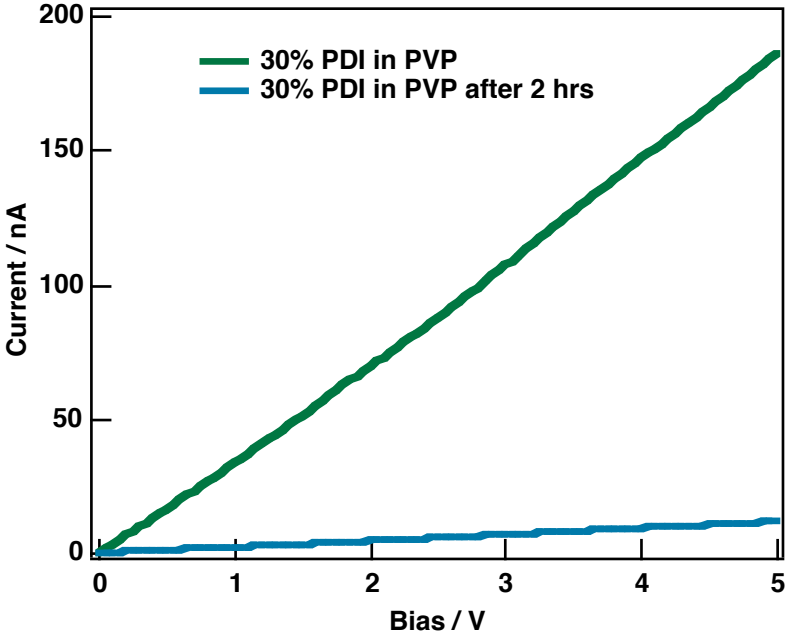

Fig. S8 I-V curves of TAIPDI in PVP.