

Electronic supplementary Information

Aqueous soft matter based photovoltaic devices

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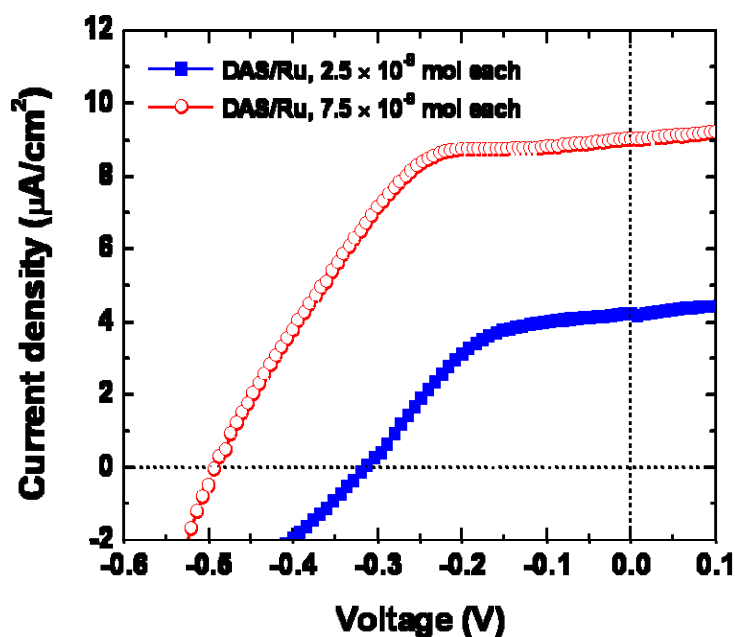


Fig. S1 The effect of dye concentration on photovoltaic performance. When the dye concentration was increased 3 times (7.5×10^{-8} mol in each gel layer) than that of the prototype device (2.5×10^{-8} mol in each gel layer), both photovoltaic parameters, J_{sc} and V_{oc} , were improved by 125% and 67%, respectively. The bias was swept from -0.6 V to 0.1 V at a sweep rate of ~ 9.5 mV/s.

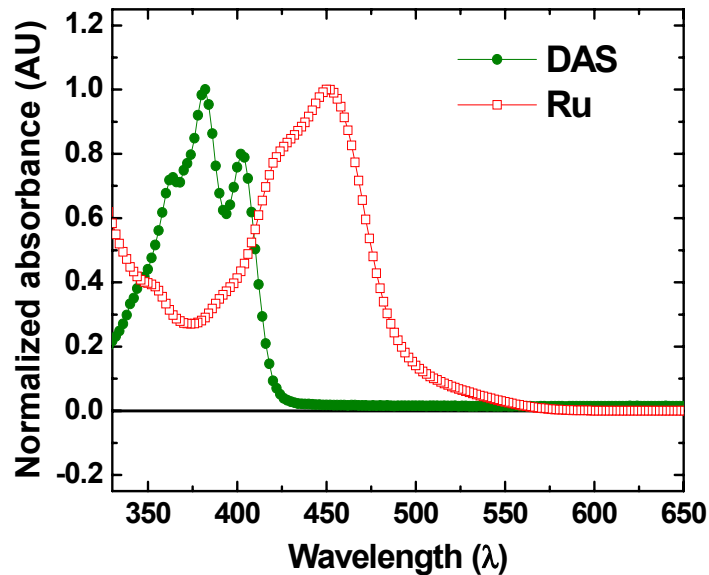


Fig. S2 UV-Vis absorption spectra of DAS⁻ and [Ru(bpy)₃]²⁺ dyes. The energy gaps between the HOMO and LUMO of the DAS⁻ and the [Ru(bpy)₃]²⁺ dyes for the provisional mechanism were estimated from the wavelength values at the maximum peak position.

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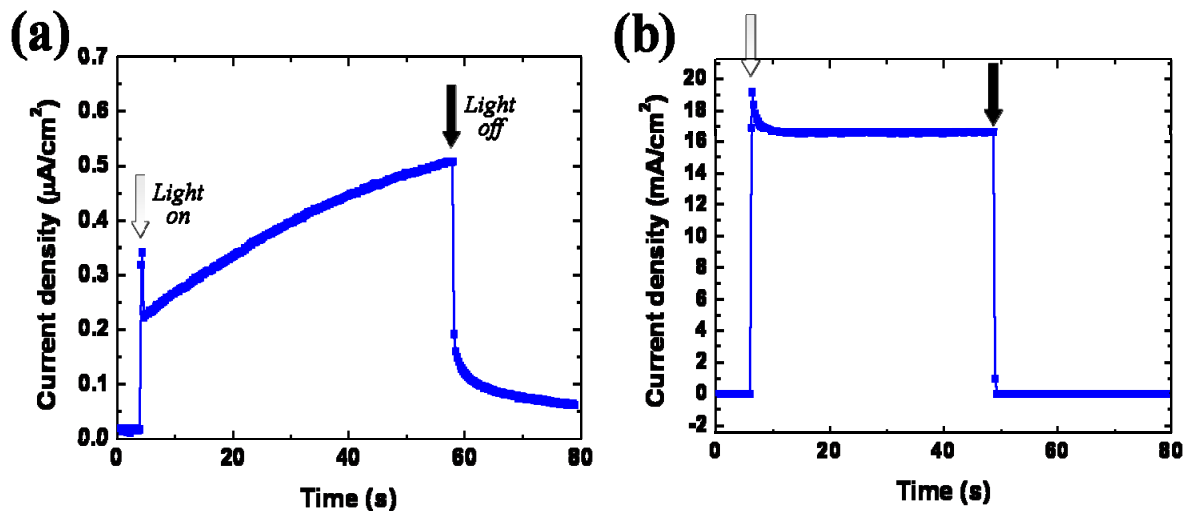


Fig. S3 Photocurrent responses of (a) HGPVs and (b) DSSCs under dark and illumination conditions. White and black arrows represent the times when the light was turned on and off, respectively.

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