Supporting Information

High-efficiency and stable quasi-solid-state dye-sensitized solar cell based on low molecular mass organogelator electrolyte

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Synthesis of low molecular mass organogelator

The *N,N'*-1,5-pentanediylbis-dodecanamide was synthesized by reacting lauroylchloride (0.14 mol) with 1,5-Diaminopentane (0.044 mol) and $NaHCO_3$ (0.13 mol) in mixture of water (150 mL) and ether (150 mL). After the reaction, the solvent was removed under vacuum at 50 °C and the gelators were obtained as white powder used with further recrystallization by ethanol. The production was obtained (16 g, 79%) as colorless leaflets. Anal. Calcd. For $C_{29}H_{58}N_2O_2$: C 74.62; H 12.52; N 6.00. Found: C 74.69; H 12.37; N 6.24.

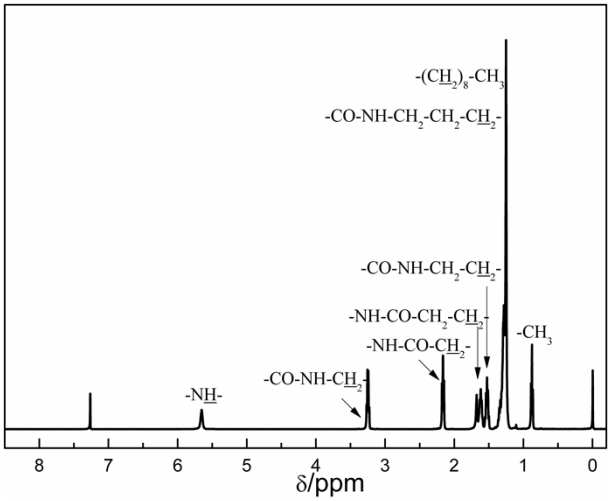

Fig. S1 ^{1}H NMR chemical shifts of *N,N'*-1,5-pentanediylbis-dodecanamide in Chloroform-*d*

EIS measured at different DC biases

The EIS measurements were carried out in the dark condition, therefore, we need a reverse direct-current bias to obtain the kinetic process at the TiO_2 photoelectrode/electrolyte interface of DSSCs. Moreover, we have measured EIS at different DC biases, the differences in the two kind of electrolytes is similar at different DC biases in the manuscript. Therefore, we selected the DC bias which is closer to the open circuit potential.

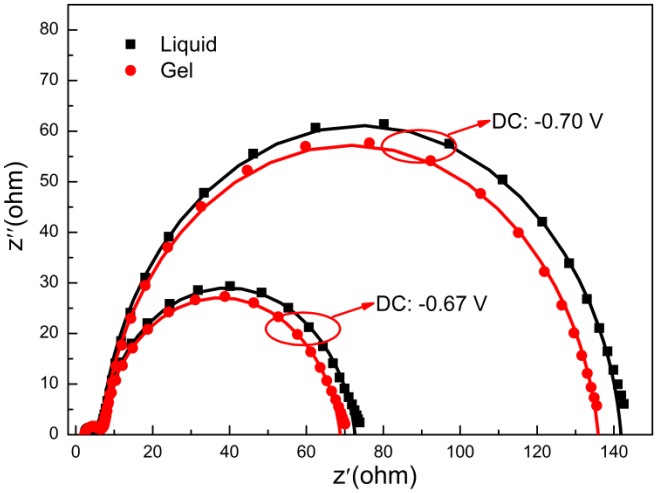

Fig. S2 Electrochemical impedance spectroscopy (Nyquist plots) for DSSCs based on liquid and gel electrolytes at different DC biases.