Electronic Supplementary Material (ESI) for

Enhancement of diffusion kinetics in porous MoN nanorods based

counter electrode in a dye-sensitized solar cell

J. Song^a, G. R. Li^{a,b*}, Kai Xi^b, B. Lei^a, X. P. Gao^{a*} and R. Vasant Kumar^b

^a Institute of New Energy Material Chemistry, Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin Key Laboratory of Metal and Molecule Based Material Chemistry, Nankai University, Tianjin 300071, China Fax: +86-22-23500876; Tel: +86-22-23500876.

E-mail address: guoranli@nankai.edu.cn; xpgao@nankai.edu.cn

^b Department of Materials Science and Metallurgy, University of Cambridge, Cambridge CB3 0FS, United Kingdom



Figure 1S. Surface (a) and cross (b) SEM images of Pt-FTO electrode.



Figure 2S. Cross-section SEM images of MoN NR-Ti electrodes with different film thickness: (a) 3.4 μm and (b) 13.0 μm.



Figure 3 S. *J-V* curves of DSSCs using MoN NR-Ti counter electrodes with different film thicknesses: 1.4 μm, 3.4 μm and 13.0 μm.

Table S1. The photovoltaic parameters of DSSCs using MoN NR-Ti counter electrodes with different film thicknesses

Sample	$V_{\rm oc}({ m V})$	$J_{\rm sc}({\rm mA}\cdot{\rm cm}^{-2})$	FF	η (%)
MoN NR-Ti-1.4 μm	0.740	15.26	0.65	7.29
MoN NR-Ti-3.4 µm	0.725	15.06	0.59	6.43
MoN NR-Ti-13.0 µm	0.695	14.34	0.52	5.20