Supplementary Information

Mesoporous carbon-imbedded W_2C composite as flexible counter electrodes for dye-sensitized solar cells

Ling Li,[a] Huidong Sui,[a] Wenming Zhang,[a]* Xiaowei Li,[a] Kun Yang,[b]* Anders Hagfeldt[c] and Mingxing Wu[d]*

[a] Hebei Key Lab of Optic-electronic Information and Materials, College of Physics Science and Technology, Hebei University, Baoding, 071002, P. R. China. E-Mail: wmzhanghbu@163.com

[b] College of Quality and Technical Supervision, Hebei University, Baoding, 071000, China, P. R. China. E-mail: hbuyangkun@163.com.

[c]Laboratory for Photomolecular Science (LSPM), Swiss Federal Institute of Technology at Lausanne (EPFL), CH-1015 Lausanne, Switzerland

[d]Key Laboratory of Inorganic Nano-materials of Hebei Province, College of Chemistry and Material Science, Hebei Normal University, Shijiazhuang, 050024, China. Tel. & Fax: +86-311-80787438, E-mail: mingxing.wu@mail.hebtu.edu.cn

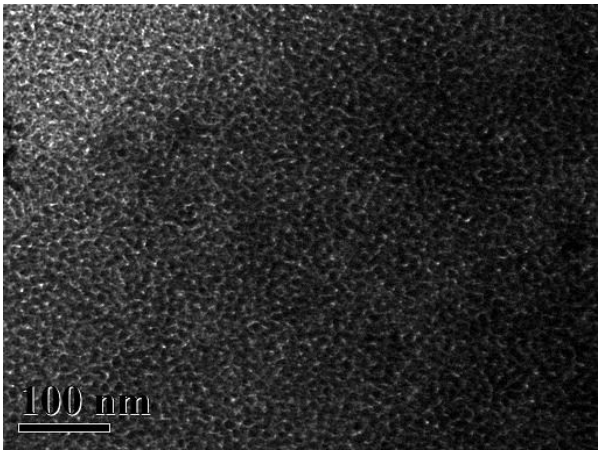

Fig. S1 TEM image of the prepared mesoporous carbon.

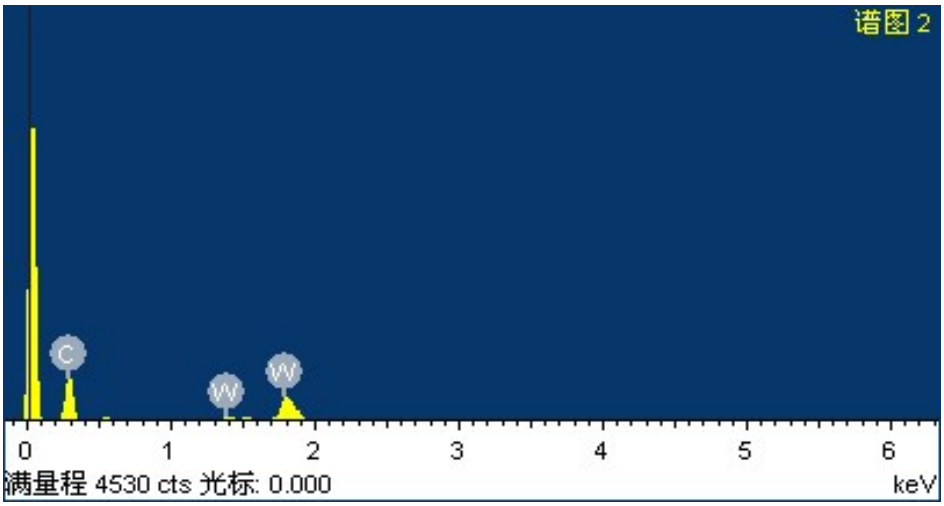

Fig. S2 EDS of prepared W_2C/MC

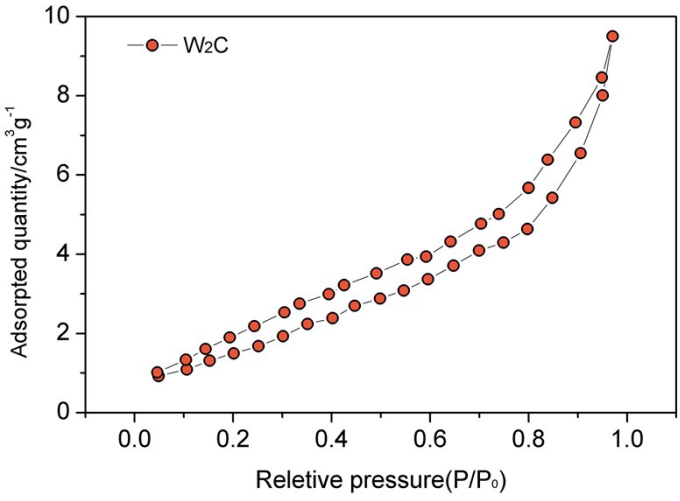

Fig. S3 The N_2 sorption isotherm of W_2C.

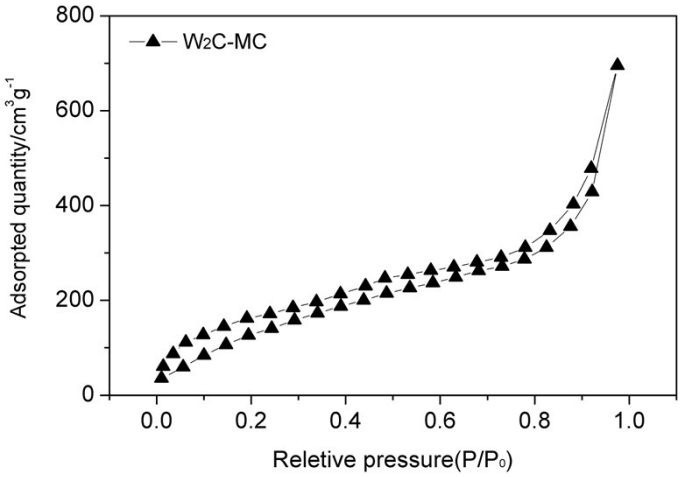

Fig. S4 The N_2 sorption isotherm of W_2C/MC.

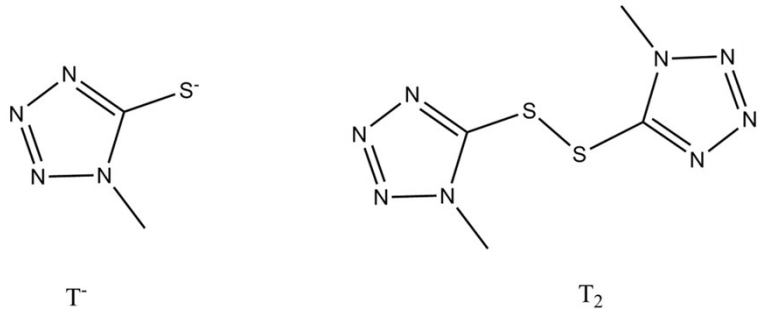

Fig. S5 Molecular structure of T^- and T_2.

Table S1 Photovoltaic parameters of the iodide electrolyte based-DSCs using MC, W_2C, and W_2C/MC counter electrodes.

Counter electrodes	V_{oc}/mV	J_{sc}/mA cm^{-2}	*FF*	PCE/%
MC	728	14.86	0.603	6.44
W_2C	726	13.59	0.648	6.40
W_2C/MC	744	15.23	0.672	7.61

V_{oc}: open-circuit voltage, J_{sc}: short-circuit current density, FF: fill factor, PCE: power conversion efficiency.