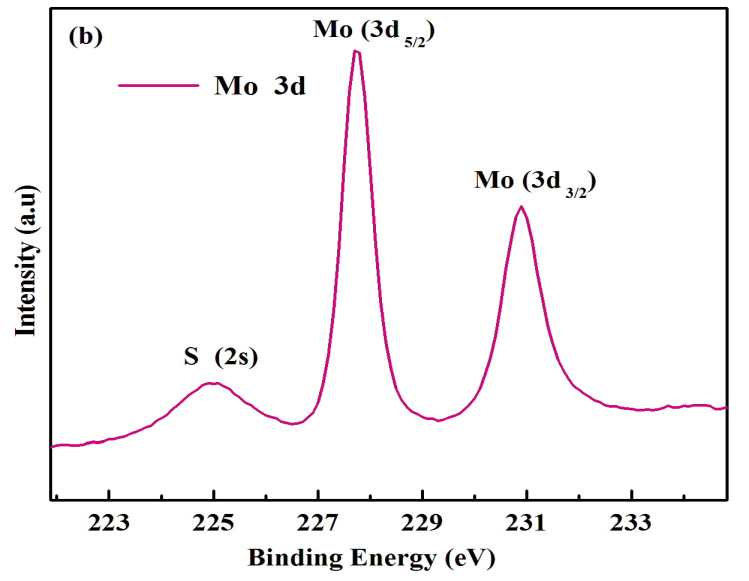
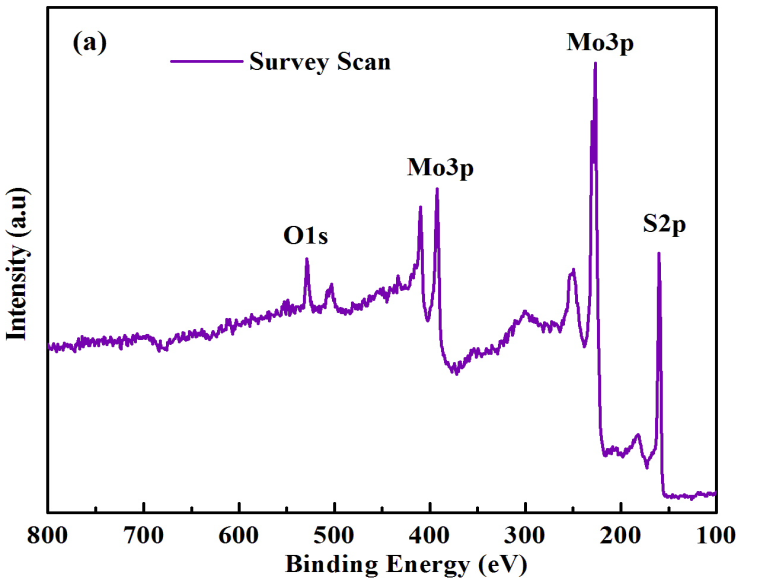
Supporting information

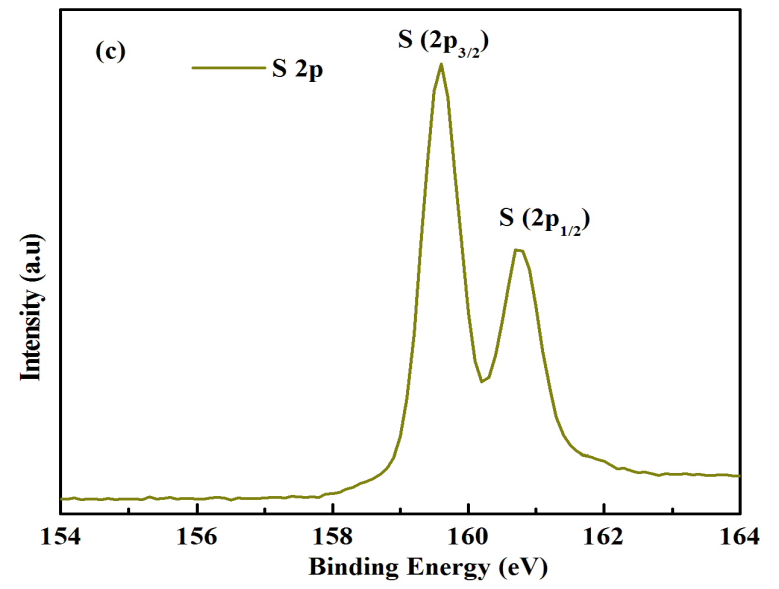
Molybdenum disulfide/reduced graphene oxide hybrids with enhanced electrocatalytic activity: An efficient counter electrode for dye-sensitized solar cells

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Fig S1. XRD patterns of MoS2-rGO composites at different reaction time and keeping the temperature in constant

Fig. S1 clearly shows that the MoS2-rGO composites with optimal structure and phase crystalline were not obtained until the reaction times were set to be 180°C for 24 h.





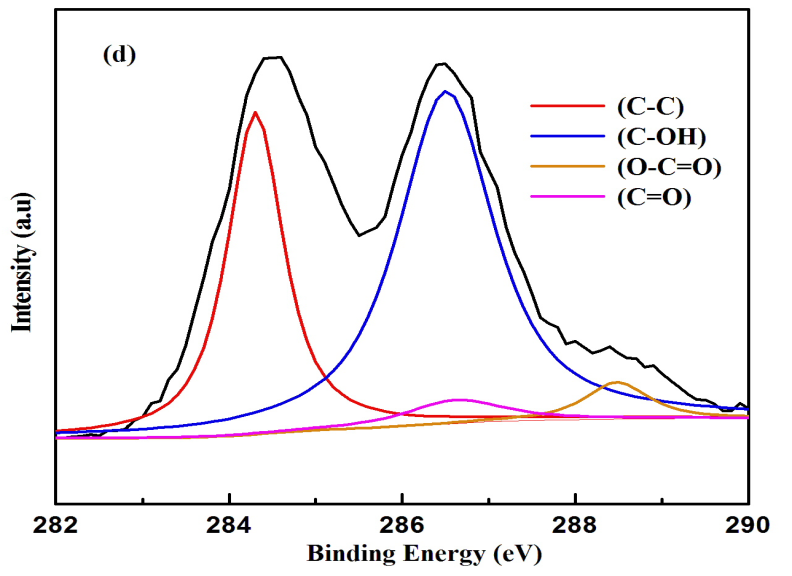
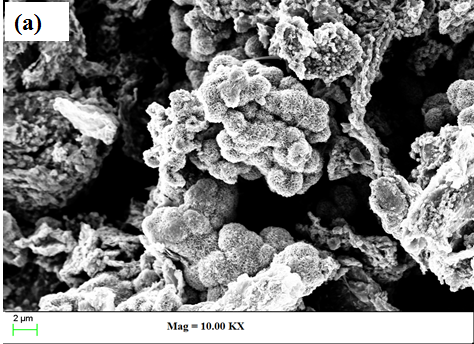


Fig S2. (a) Survey spectra, (b) Mo 3d, (c) S 2p of pristine MoS2 and (d) GO

The survey spectra indicated that the pristine MoS2 contains elements Mo, S, and O respectively (Fig. S3 a). The peak with a binding energy of 227.82 eV and 231.04 eV can be assigned to the Mo4+(3d5/2) and Mo4+(3d3/2) and the lower energy peak located at 225.20 eV corresponds to S (2s) of MoS2 as shown in Fig S3 (b). The peak with binding energy revealed at 159.56 eV and 160.90 eV in Fig. S3 (C) can be attributed to the S 2p1/2 and S 2p3/2, indicating the existing of S in the pristineMoS2. Fig. S 2 (d) shows, after deconvolution the peak at 284.2 eV correspond to sp2 of GO. The peaks at 286.2 eV (hydroxyl groups), 286.7 eV (carbonyl groups) and 288.5 eV (carboxyl groups) confirms the presence of oxygen functionalities.



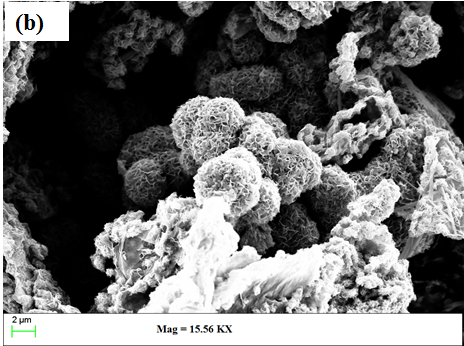


Fig S3. (a) and (b) SEM images of MG-2.5 at different magnifications.

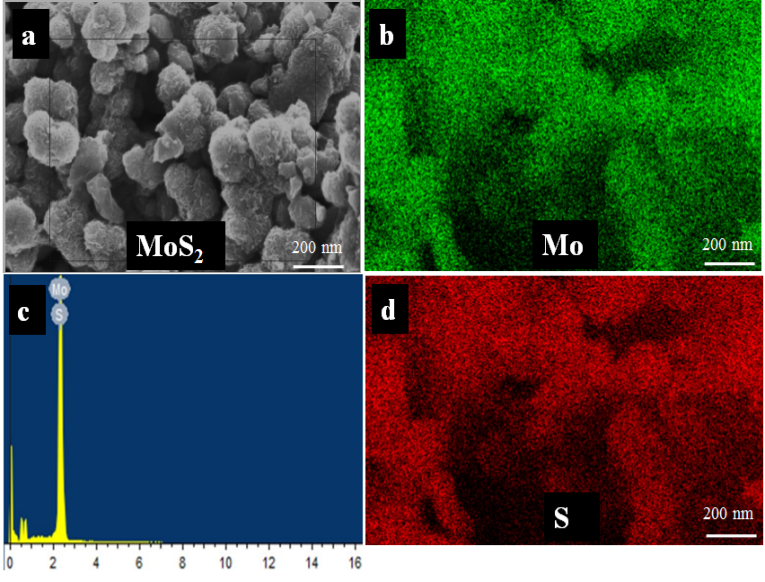


Fig S4. EDS and elemental mapping of pristine MoS2