## SUPPLEMENTARY INFORMATION

Carbon nitride used as a reactive template to prepare mesoporous molybdenum sulfide and nitride.

Daria Ryaboshapka, Pavel Afanasiev

Univ Lyon, Univ. Claude Bernard Lyon 1, CNRS, UMR5256, IRCELYON, F-69626, Villeurbanne, France.



Fig. S1 TG curves for AHM/C<sub>3</sub>N<sub>4</sub> and bare  $C_3N_4$ 



Fig. S2 Mass spectrum recorded during preparation of Mo<sub>2</sub>N-CN



Fig. S3 Diffractogram of the sample prepared from  $AHM/C_3N_4$  in  $N_2$  flow at 650 °C, black bars correspond to  $Mo_2N$  phase (00-025-1366) and violet circles correspond to  $MoO_2$  phase (01-078-1070)



Fig. S4 TEM microphotographs of reference sample (AHM/C<sub>3</sub>N<sub>4</sub> treated in N<sub>2</sub> flow at 650 °C)



Fig. S5 Low magnification TEM images of  $C_3N_4$ 





Fig. S6 Selectivity distributions in HDS for (a) Mo<sub>2</sub>N-CN, (b) MoS<sub>2</sub>-CN



Fig. S7 TEM images of Mo<sub>2</sub>N-CN after HDS

