Supplementary Material.

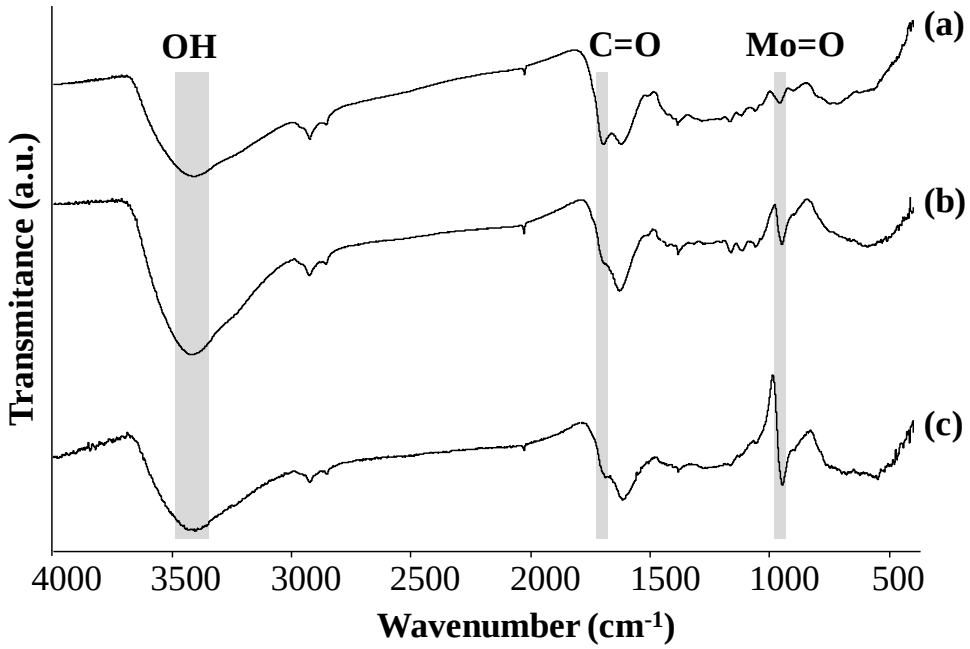

Figure S1. FT-IR spectra of the materials obtained from hydrothermal synthesis of glucose: PMA with molar ratios 40.5:1 (a), 20:1 (b) and 13.5:1 (c).

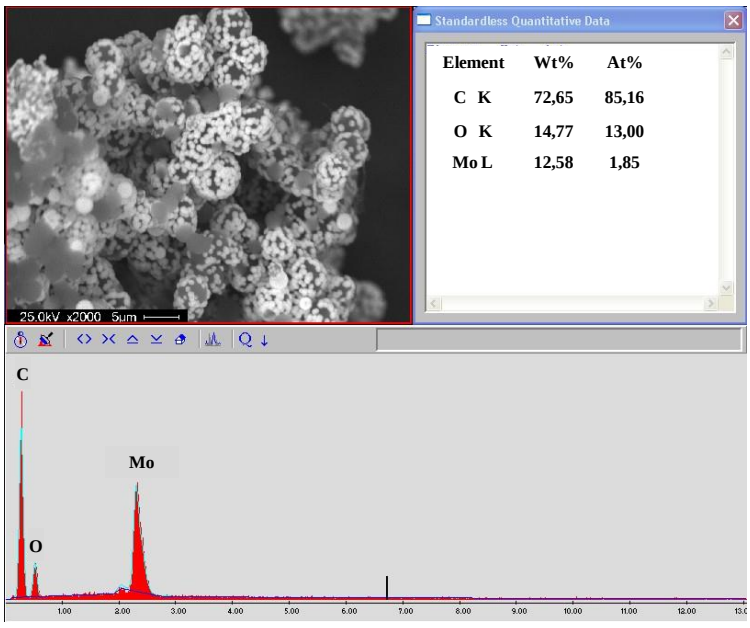

Figure S2. EDS analysis of the composite derived from hydrothermal synthesis of glucose:PMA with molar ratio of 20:1

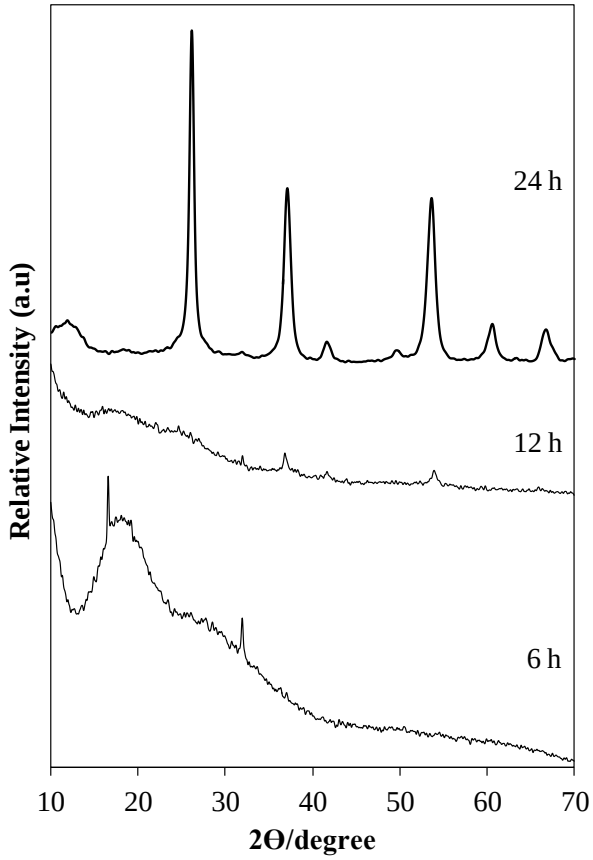

Figure S3. XRPD patterns of the materials obtained from hydrothermal synthesis of glucose and PMA using different reaction times.

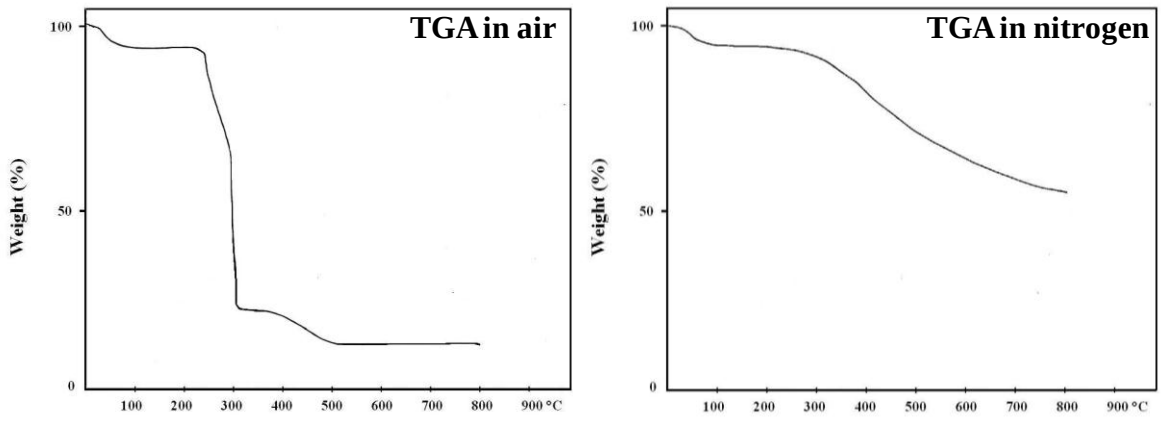

Figure S4. TGA analysis in air and nitrogen of the composite derived from hydrothermal synthesis of glucose:PMA with molar ratio of 20:1

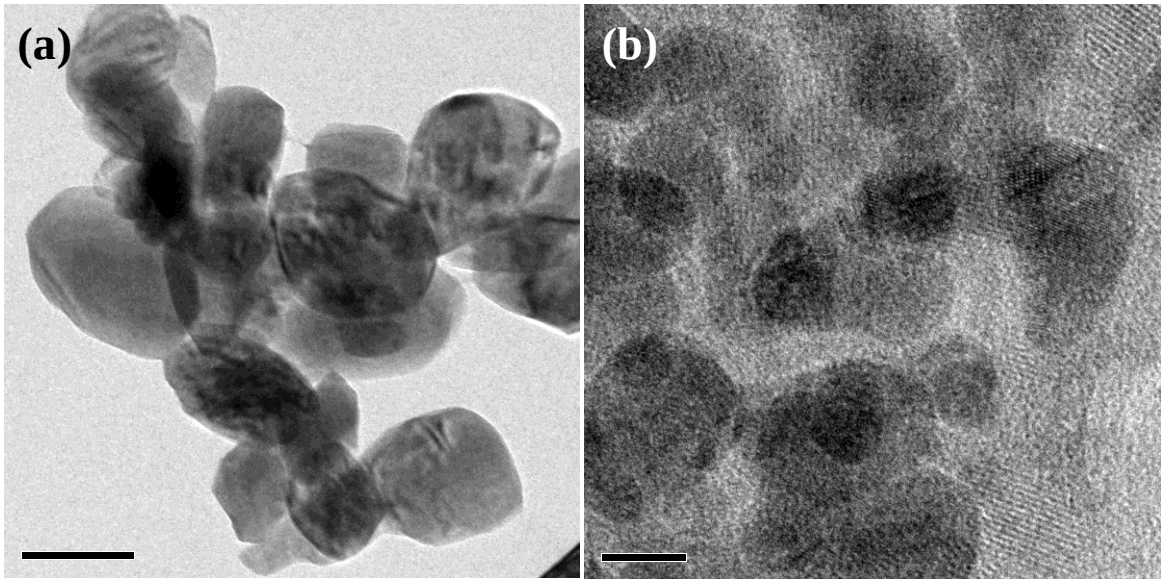

Figure S5. TEM images of nanoplates MoO_3 formed under calcination of MoO_2/C strawberry-like composites

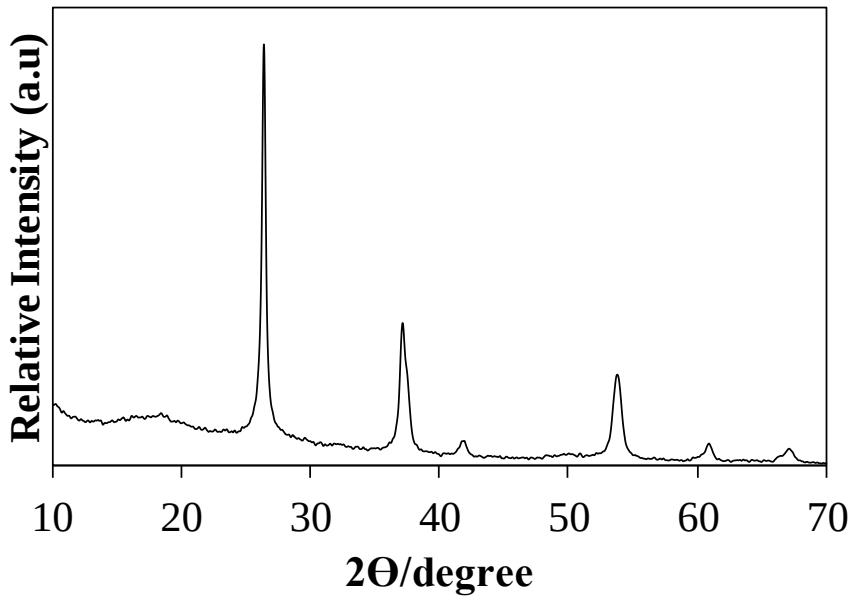

Figure S6. XRPD patterns of the composite derived from glucose:PMA molar ratio 20:1 calcined in air for 5 minutes.

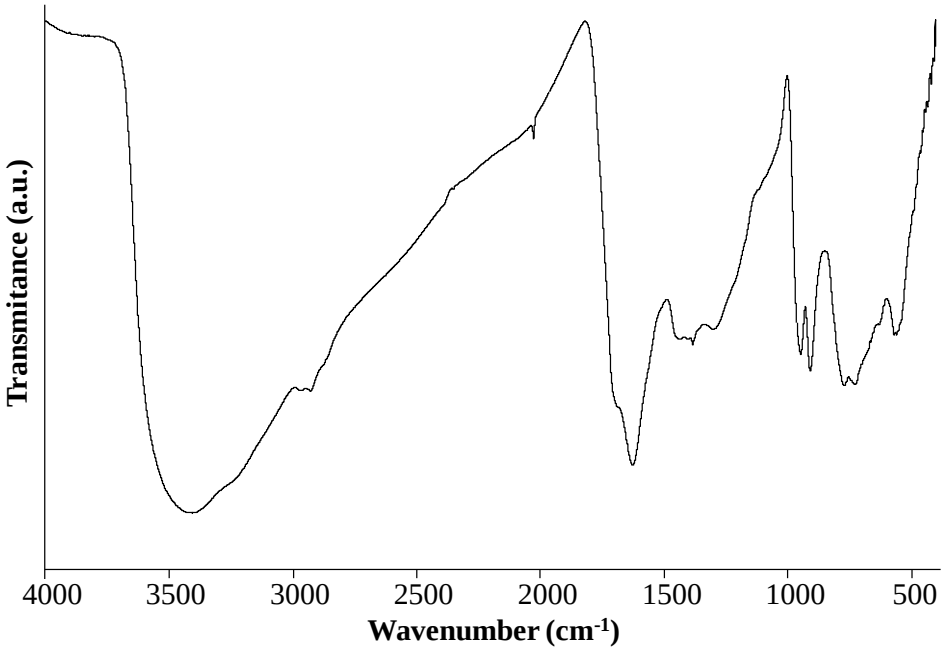

Figure S7. FT-IR spectra of the hybrid material obtained from hydrothermal synthesis of glucose and AHM.

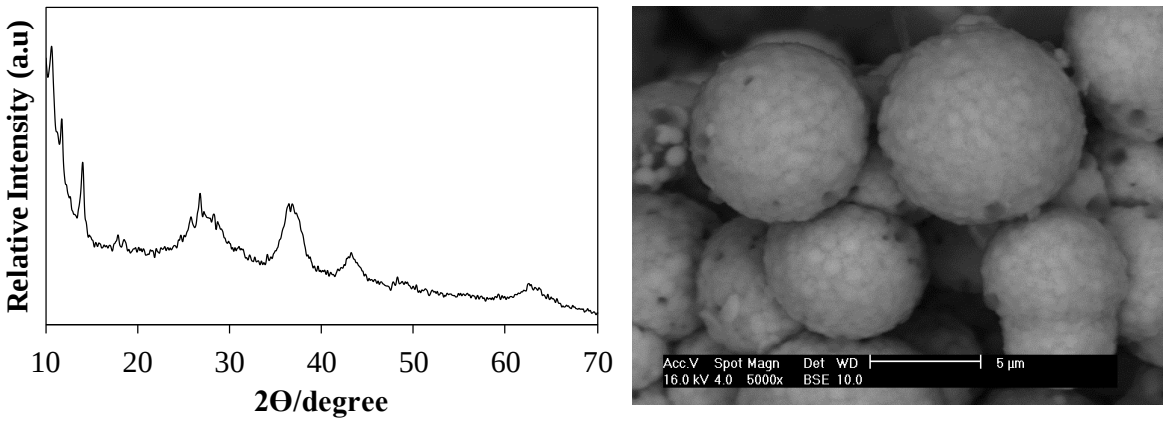

Figura S8. XRPD pattern and SEM image of the material obtained from nitriding treatment (at 700 °C) of MoO_2/C-N_2 composites.

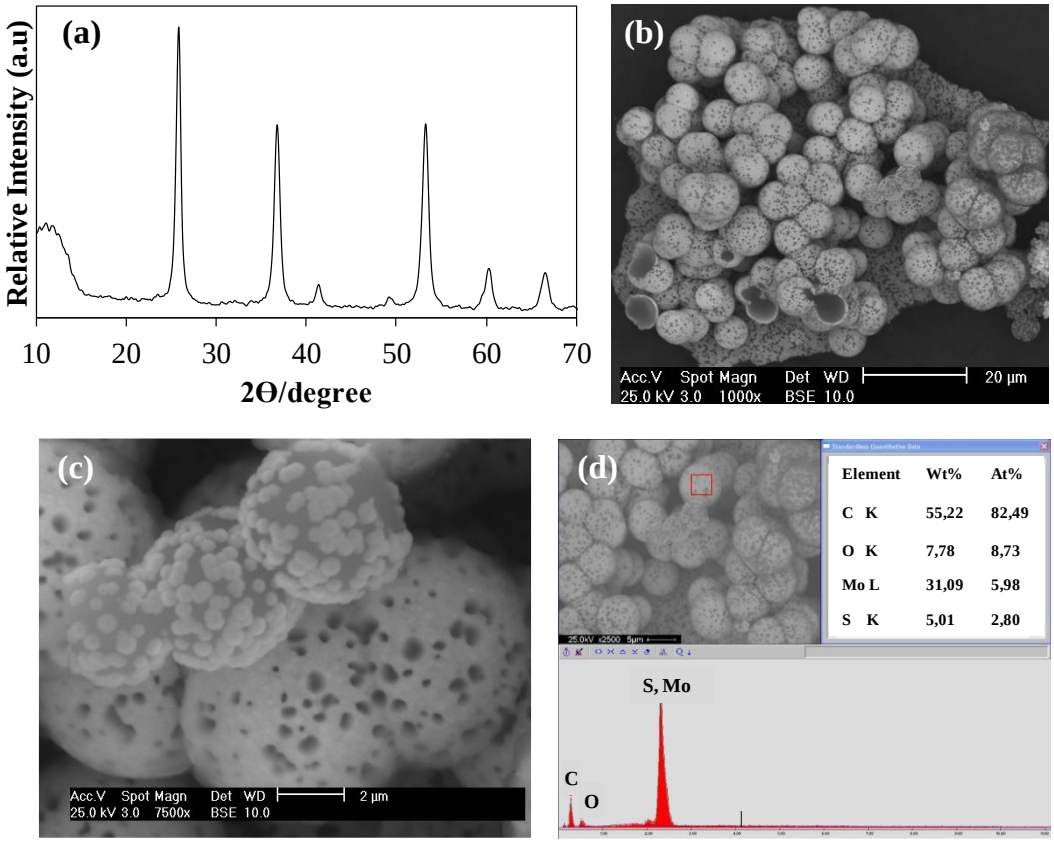

Figura S9. XRPD pattern (a), SEM images (b,c) and EDS analysis (d) of the material obtained from sulfiding treatment of MoO_2/C composites.

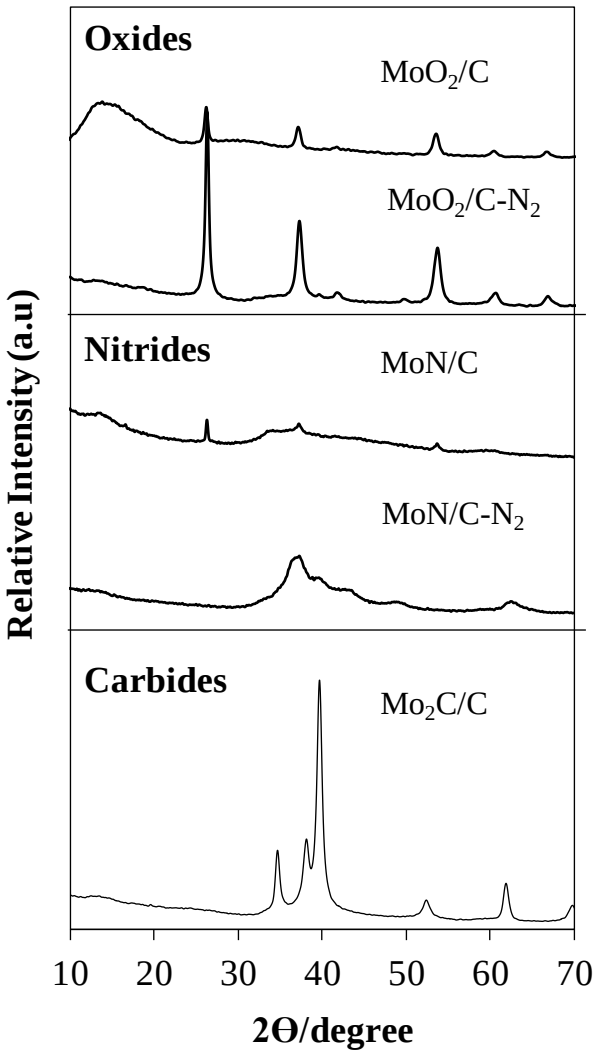

Figura S10. XRPD patterns of the catalysts after HDS reactions

Table S1. Chemical elemental analysis of the catalysts after HDS reactions

Catalysts after HDS	Morphology	%C	%O	%H	%S	%N
MoN/C-N_2	Core-Shell	29	30	2	3	3
MoN/C	Strawberry	25	35	1	7	2
Mo_2C/C	Strawberry	34	32	1	3	-
MoO_2/C-N_2	Urchin	36	28	2	4	-
MoO_2/C	Strawberry	25	40	2	3	-