Electronic Supplementary Information

Chemical Vapor Deposition (DLI-CVD) and Characterization of Multiphasic Molybdate-based Catalysts for Propene Oxidation.

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Formula used for the catalytic property calculations

Conversion of propene X(Pro) and selectivity to products S(X) (X=acrolein, CO,CO_2 acrylic acid and acetaldehyde) have been calculated using the following equations :

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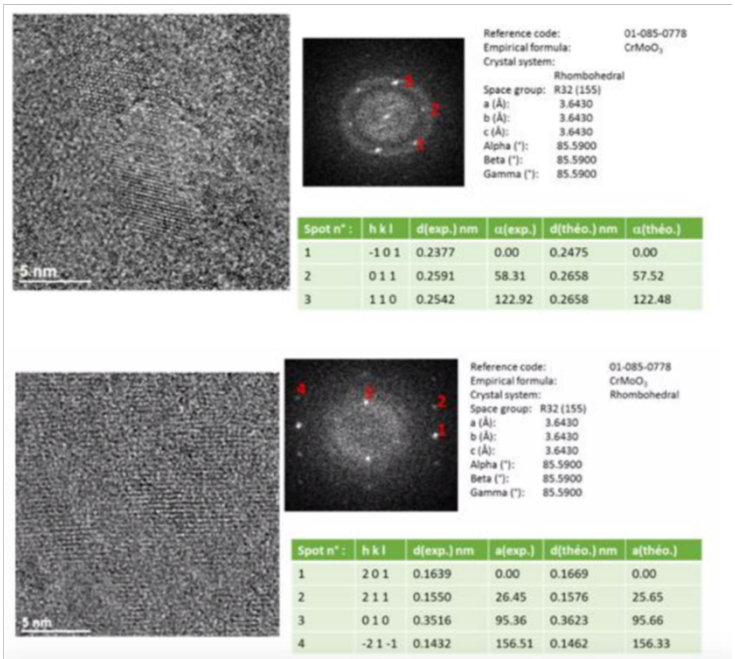
The carbon balance was verified by calculating the ratio of the total number of carbon atoms in the products, including propene, to the number of carbon atoms in the propene feed. The analysis was considered as reliable when the carbon balance was higher than 98%.



Spot n° :	h k l	d(exp.) nm	α(exp.)	d(théo.) nm	α(théo.)
1	-1 0 1	0.2377	0.00	0.2475	0.00
2	0 1 1	0.2591	58.31	0.2658	57.52
3	1 1 0	0.2542	122.92	0.2658	122.48

Spot n° :	h k l	d(exp.) nm	a(exp.)	d(théo.) nm	a(théo.)
1	2 0 1	0.1639	0.00	0.1669	0.00
2	2 1 1	0.1550	26.45	0.1576	25.65
3	0 1 0	0.3516	95.36	0.3623	95.66
4	-2 1 -1	0.1432	156.51	0.1462	156.33

Fig. S1: Image and IFFT analysis of the intermediate layer. The zones of the image where IFT was made is indicated by red color square. The calculated parameters and angles are compared to those of the corresponding ICSD files.

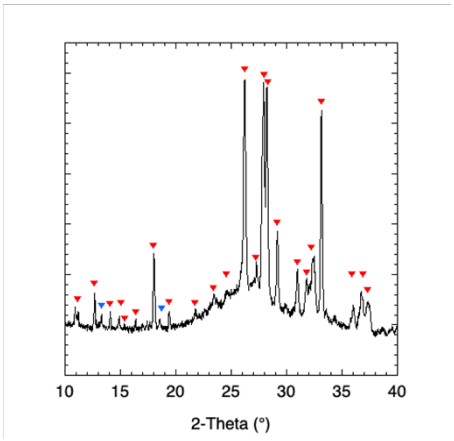


Fig. S2: X-ray diffraction pattern of a powdered sample collected on the external surface of the counter-tube of the DLI-CVD reactor