

Dynamics of carbon formation during the catalytic hydrodeoxygenation of raw bio-oil

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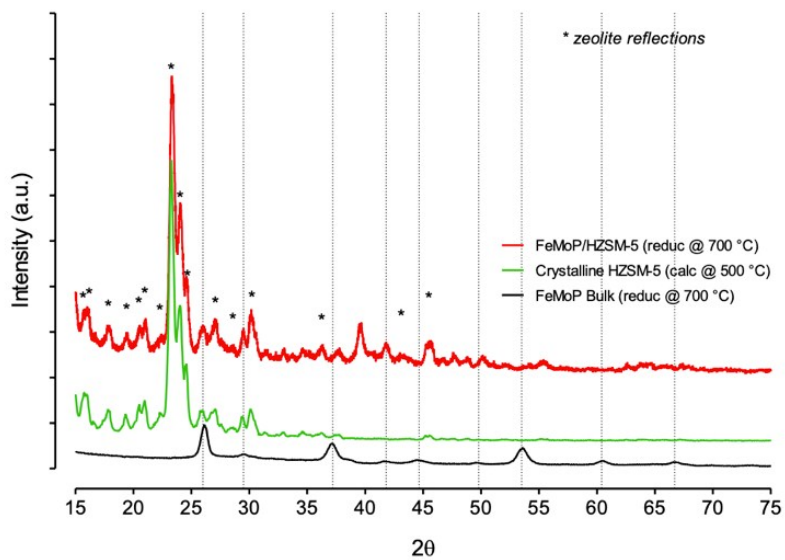


Fig. S1. XRD diffractograms of the bulk FeMoP phase, the calcined HZSM-5 zeolite support and the calcined supported catalyst

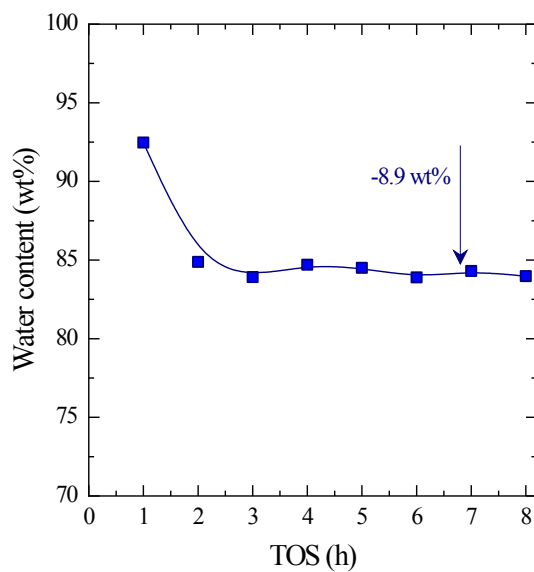


Fig. S2. Evolution with time on stream of the water content in the aqueous products.

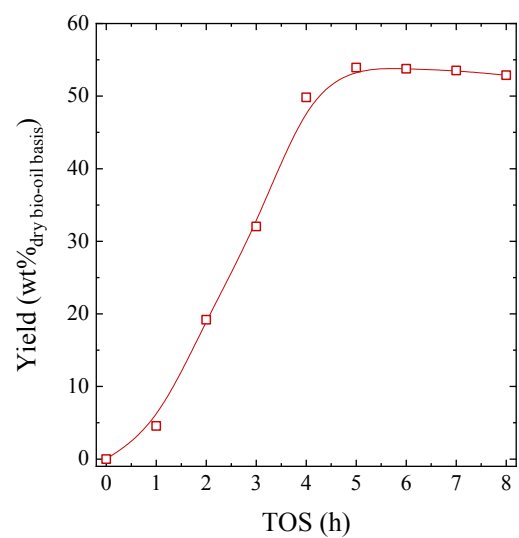


Fig. S3. Evolution with time on stream of the total carbon products on a dry bio-oil basis

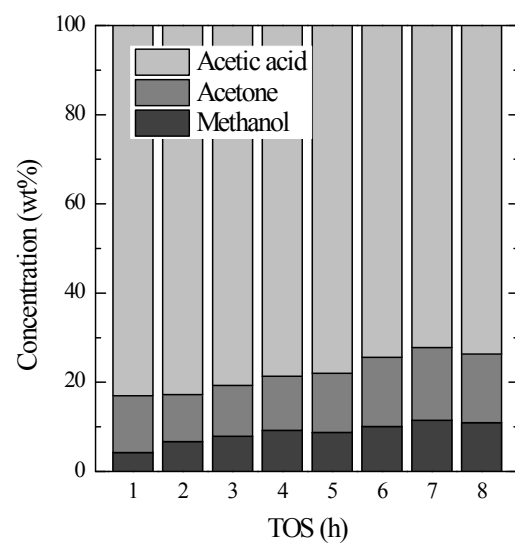


Fig. S4. Evolution of the composition of the oxygenated lump with time on stream

Table S1. Physico-chemical properties of the used catalyst at different times on stream

	Total acidity (mmol_{tBA} g⁻¹)	S_{BET} (m² g⁻¹)	V_{pore} (cm³ g⁻¹)	V_{micropore} (cm³ g⁻¹)
Fresh catalyst	0.47	312	0.218	0.113
TOS= 1 h	0.24	119	0.095	0.048
TOS= 2 h	0.13	61	0.057	0.024
TOS= 3 h	0.10	43	0.047	0.017
TOS= 4 h	0.07	26	0.033	0.009
TOS= 5 h	0.06	16	0.022	0.005
TOS= 6 h	0.04	14	0.020	0.005
TOS= 7 h	0.03	12	0.016	0.004
TOS= 8 h	0.03	9	0.013	0.003

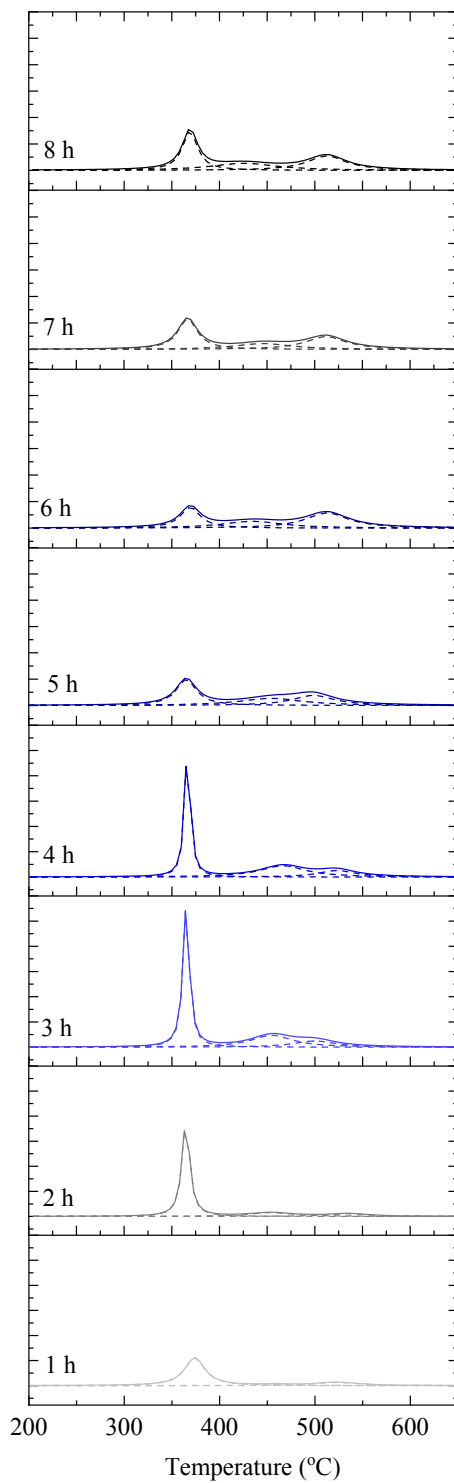


Fig. S5. Deconvolution of the TPO curves for the coke deposited on the used catalyst samples deactivated at the different times on stream

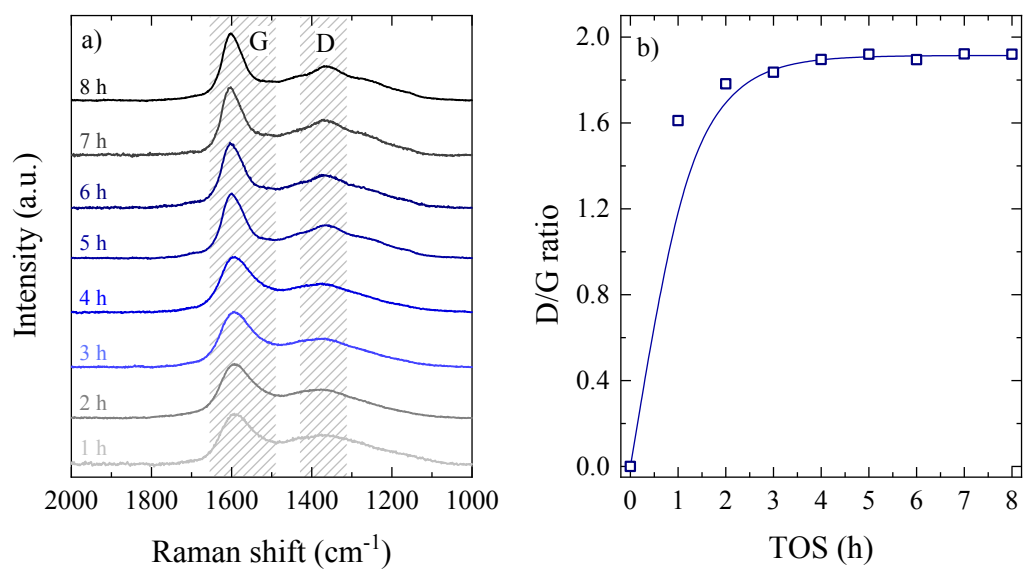


Fig. S6. a) Normalized Raman Spectra of the coke in the catalysts used at different TOS and b) evolution with time on stream of the D/G ratio.