

# Promoting light hydrocarbons yield by catalytic hydrodechlorination of residual chloromethanes using palladium supported on zeolite catalysts

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## ELECTRONIC SUPPLEMENTARY INFORMATION

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Table S1. XPS analysis of the fresh catalysts at high resolution.

Catalysts	Mass external concentration (% w.t.)						
	C	O	Al	Si	K	Na	Pd
HMOR	5.3	52.4	2.7	39.0	-	-	0.6
HL	5.8	46.8	6.2	29.8	11.1	-	0.3
KL	5.3	51.1	6.9	33.6	2.6	-	0.4
HY	5.6	49.2	8.8	35.0	-	1.3	0.1
NaY	8.5	46.2	35.9	6.8	-	1.9	0.7

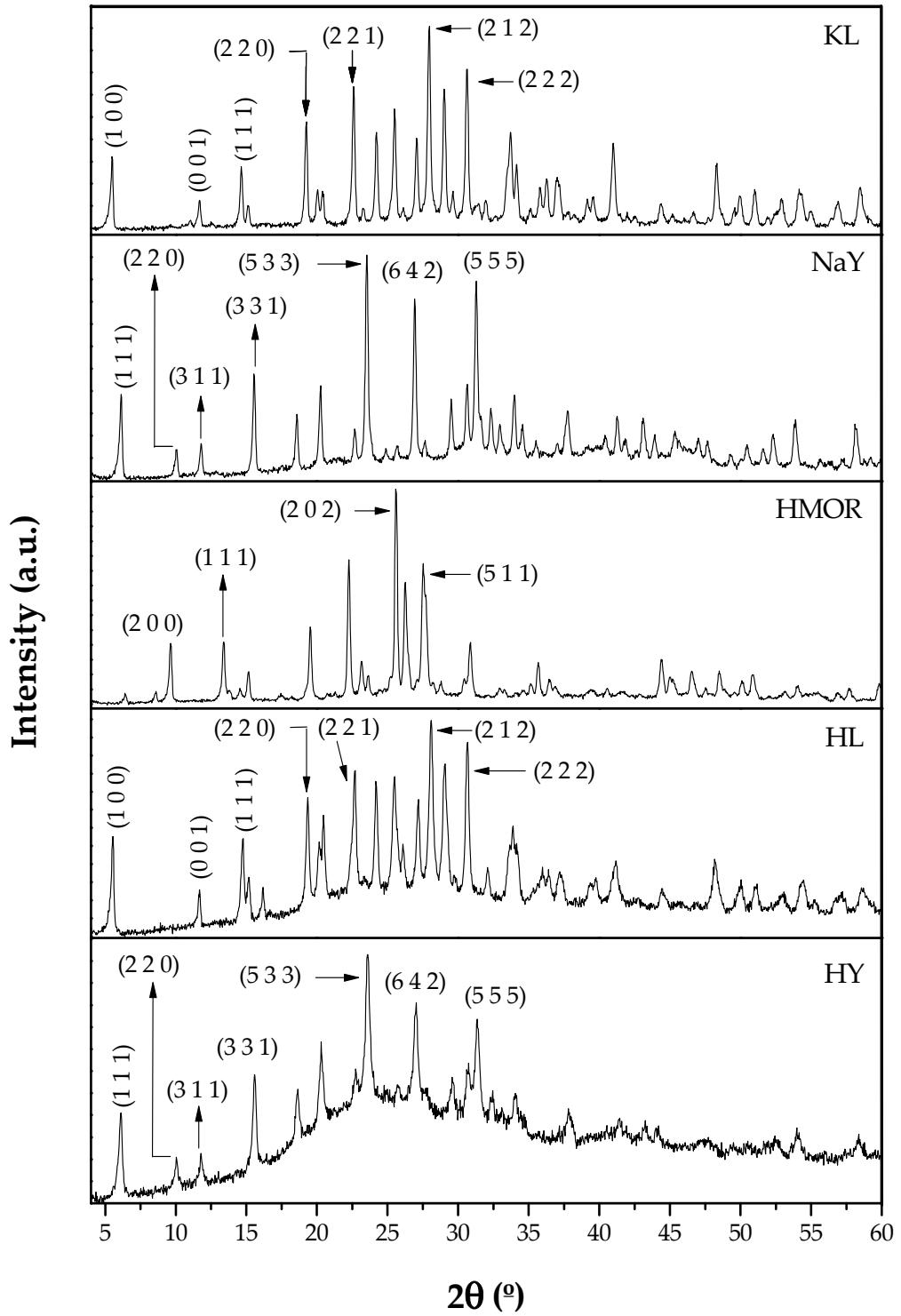


Figure S1: XRD patterns of the catalysts.

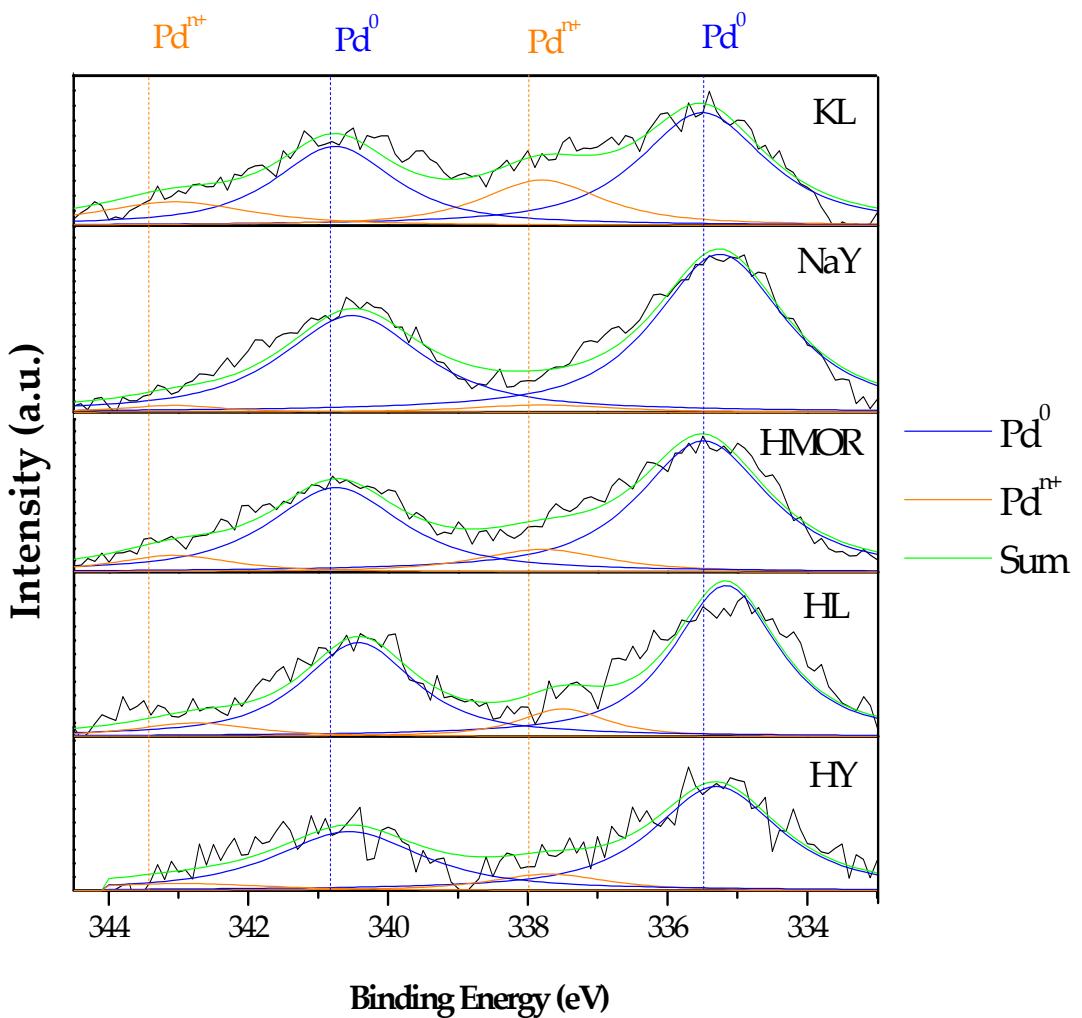


Figure S2: XPS Pd3d deconvoluted spectra Pd 1%.

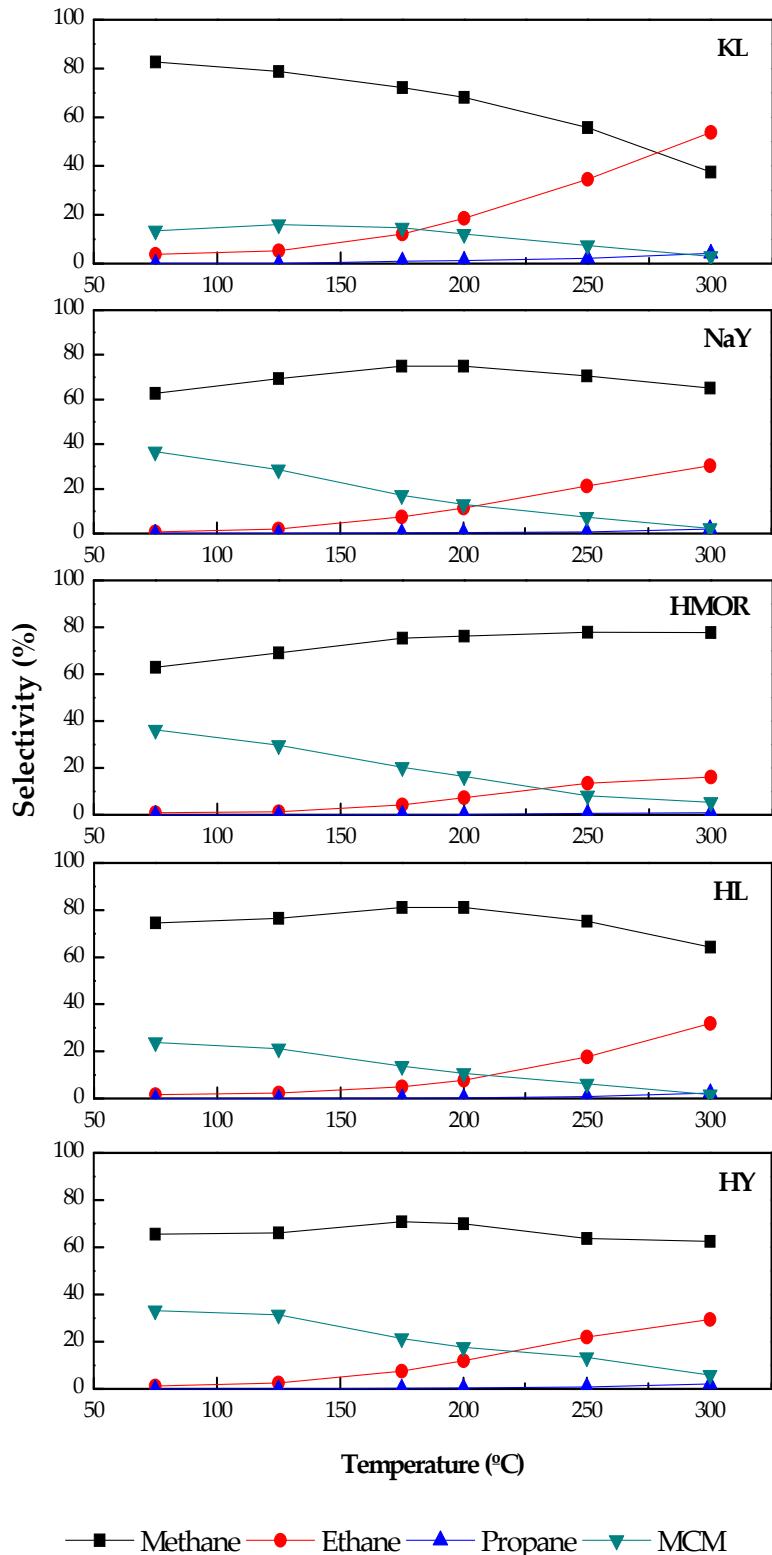


Figure S3: Selectivity versus reaction temperature on the HDC of DCM with the catalysts ( $\tau = 0.8 \text{ kg}_{\text{cat}} \text{ h mol}^{-1}$ , 1000 ppmv,  $\text{H}_2/\text{DCM} = 100$ ).

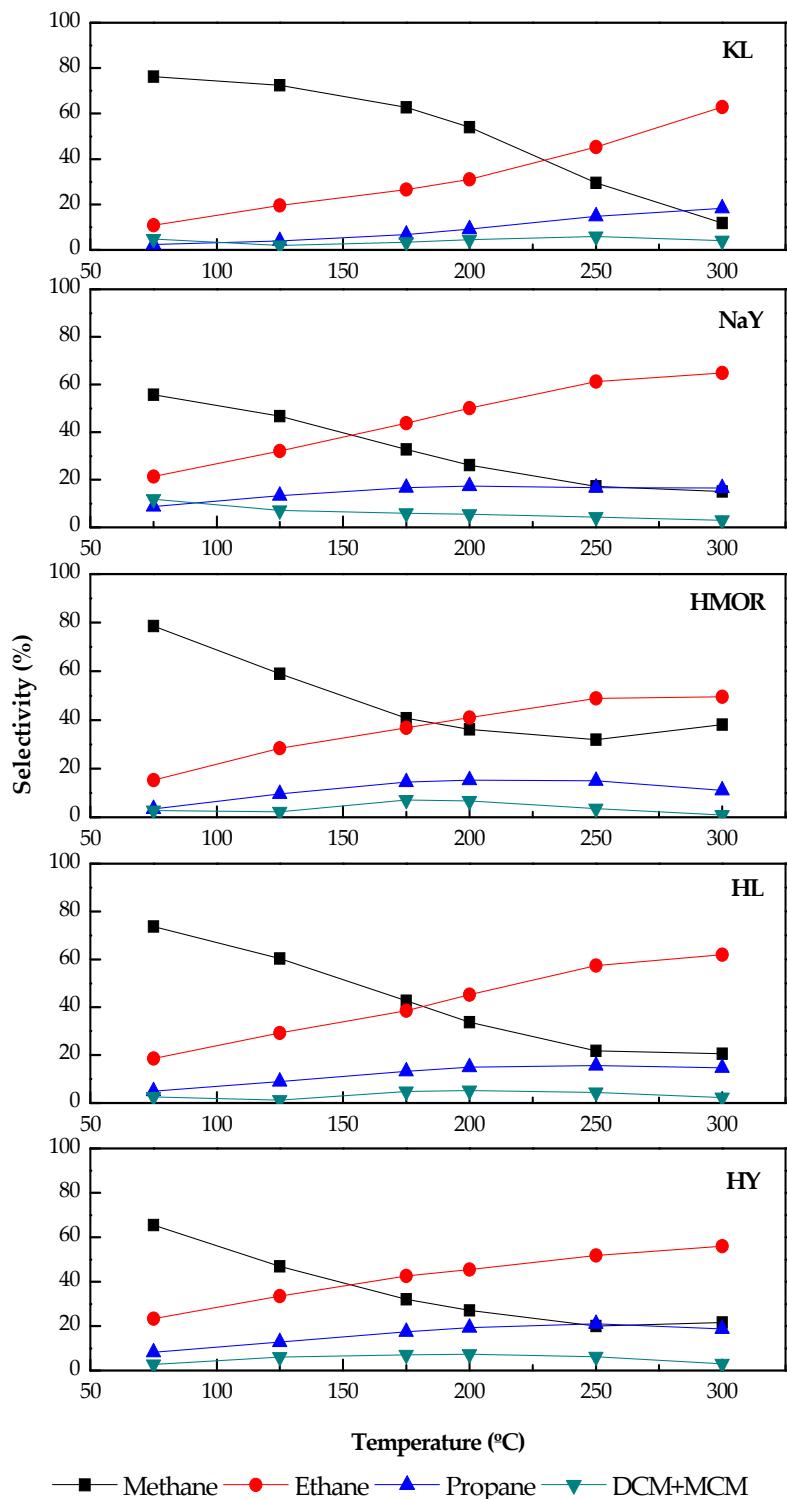


Figure S4: Selectivity versus reaction temperature on the HDC of TCM with the catalysts ( $\tau = 0.8 \text{ kg}_{\text{cat}} \text{ h mol}^{-1}$ , 1000 ppmv,  $\text{H}_2/\text{TCM} = 100$ ).