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Role of the support on the performance and stability of Pt-based catalysts for furfural-acetone adducts hydrodeoxygenation

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SUPPLEMENTARY INFORMATION

Figure S1: Representative TEM micrographs of the 1wt% Pt/ZSM-5 catalysts used in this work: (a) 1.A; (b) 1.B.

Figure S2: Representative TEM micrographs of the 1wt% Pt/ZSM-5 catalysts used in this work: (a) 2.A; (b) 2.B.

Figure S3: Comparison of selectivities obtained with the different Pt/ZSM-5 zeolites and Pt/Al₂O₃ at 95 % of C8-condensated conversion. Colors: (○) C8-condensated; (●) “B”; (●) “C”; (●) “D”; (●) “E”; (●) “Carbon unbalance”.

Results related to the Pt/Al₂O₃ are adapted from *ref. 13*.

Figure S4: Representative TEM micrographs of the different 1wt% Pt inorganic catalysts used in this work: (a) Pt/L; (b) Pt/Y; (c) Pt/MgZr.

Figure S5: Representative TEM micrographs of the different 1wt% Pt organic catalysts used in this work: (a) Pt/HSAG; (b) Pt/AC (WI); (c) Pt/AC (IE); (d) Pt/MgZr/HSAG

Figure S6: Comparison of selectivities obtained with the different inorganic and organic materials at 95 % of C8-condensated conversion. Colors: (○) C8-condensated; (●) “B”; (●) “C”; (●) “D”; (●) “E”; (●) “Others”. Results related to the Pt/Al₂O₃ are adapted from *ref. 13*.

Figure S7: Correlation between the values of the kinetic constants and the specific surface area of each catalyst. Codes: (1) Pt/Al₂O₃; (2) Pt/AC (IE); (3) Pt/MgZr; (4) Pt/Y; (5) Pt/HSAG.

Figure S8: Representative TEM micrographs of the spent catalysts after the sixth reaction cycle: (a) Pt/Al₂O₃; (b) Pt/AC; (c) Pt/HSAG.

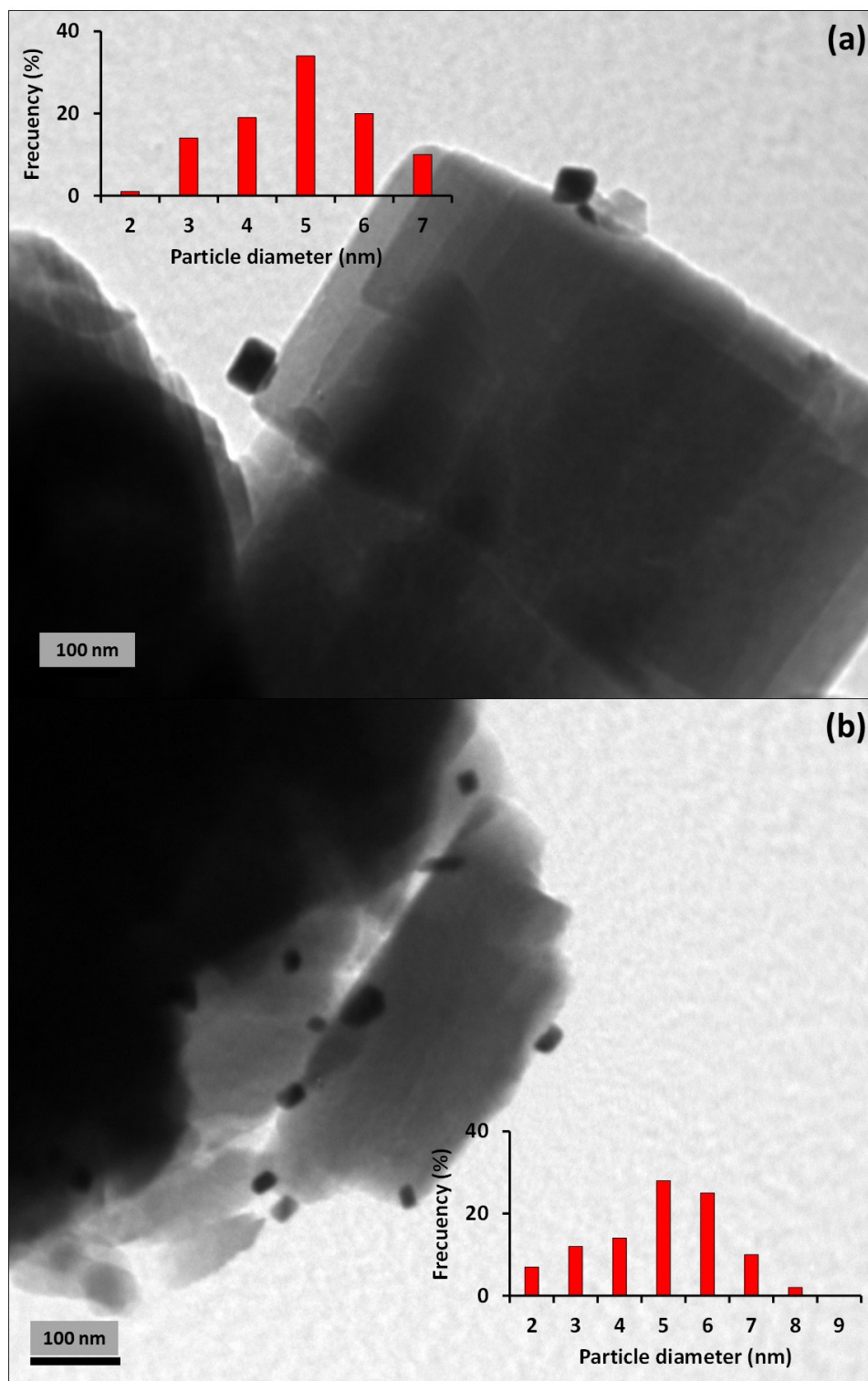


Figure S1: Representative TEM micrographs of the 1wt% Pt/ZSM-5 catalysts used in this work: (a) 1.A; (b) 1.B.

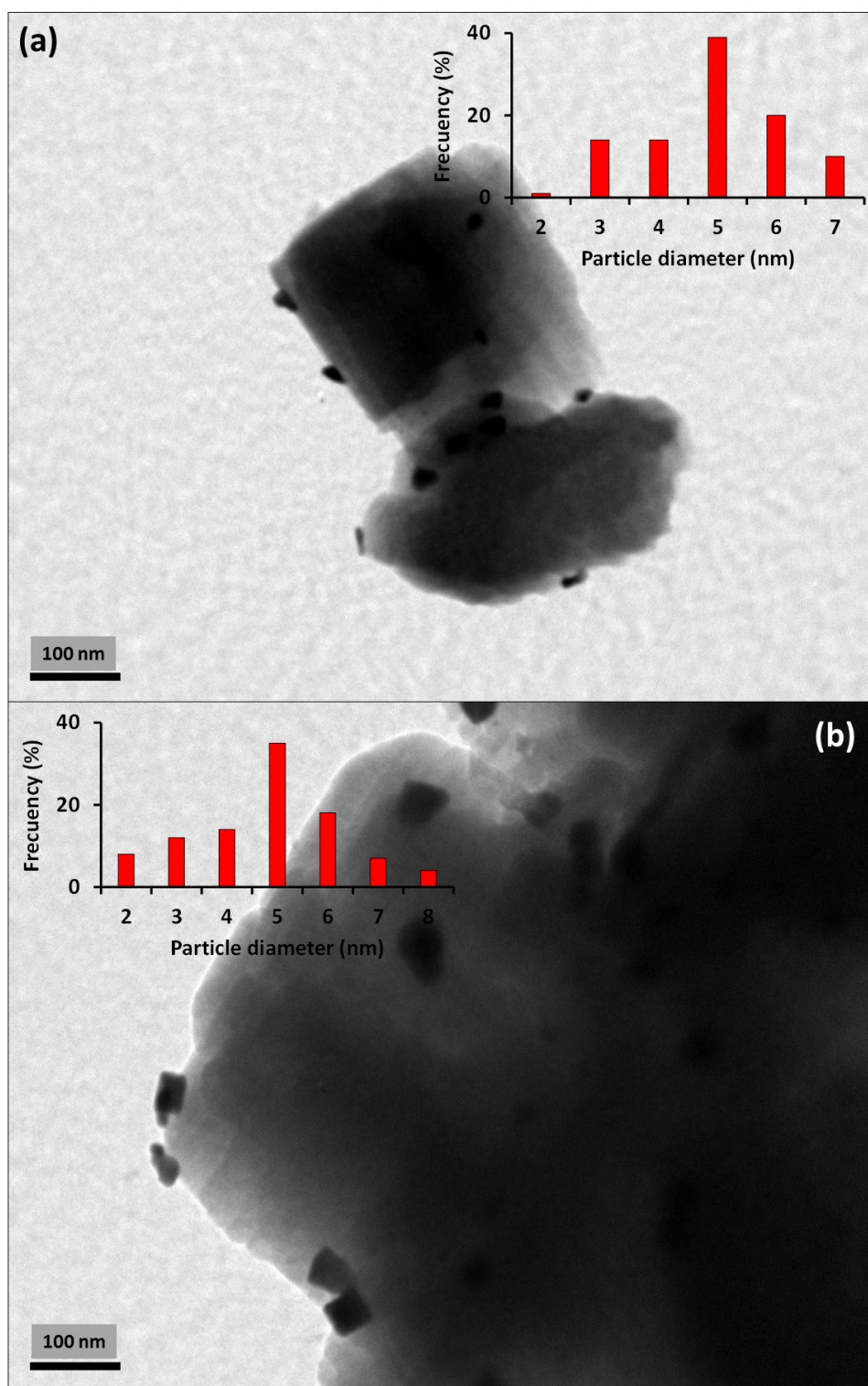


Figure S2: Representative TEM micrographs of the 1wt% Pt/ZSM-5 catalysts used in this work: (a) 2.A; (b) 2.B.

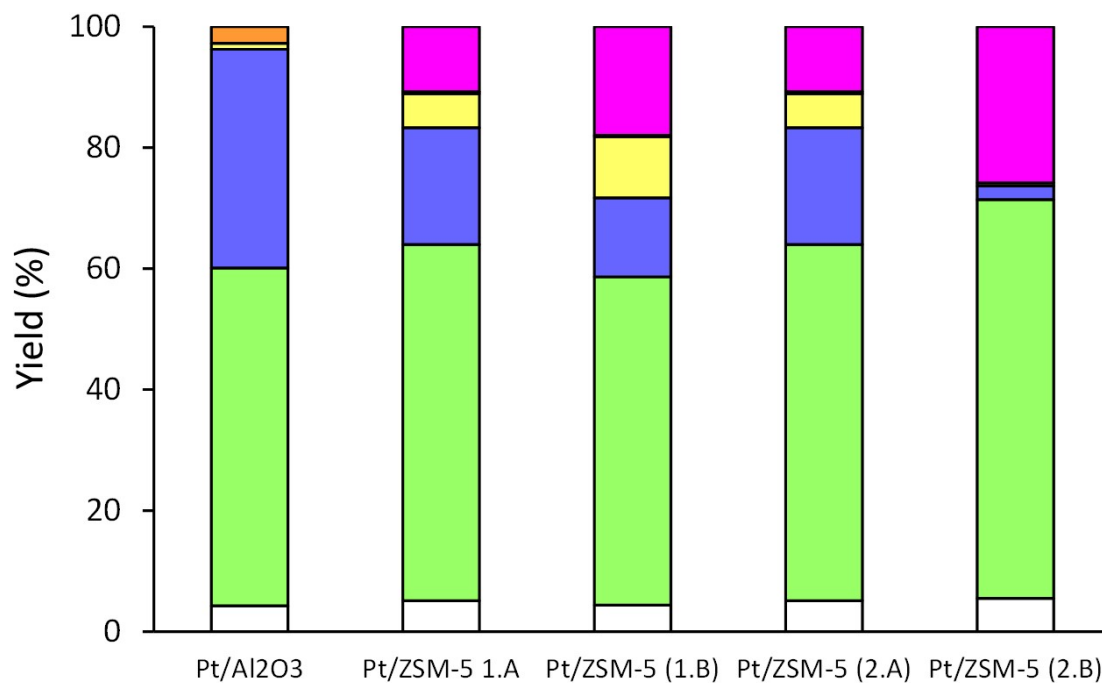


Figure S3: Comparison of selectivities obtained with the different Pt/ZSM-5 zeolites and Pt/Al₂O₃ at 95 % of C8-condensated conversion. Colors: (O) C8-condensated; (●) "B"; (●) "C"; (●) "D"; (●) "E"; (●) "Carbon unbalance".

Results related to the Pt/Al₂O₃ are adapted from *ref. 13*.

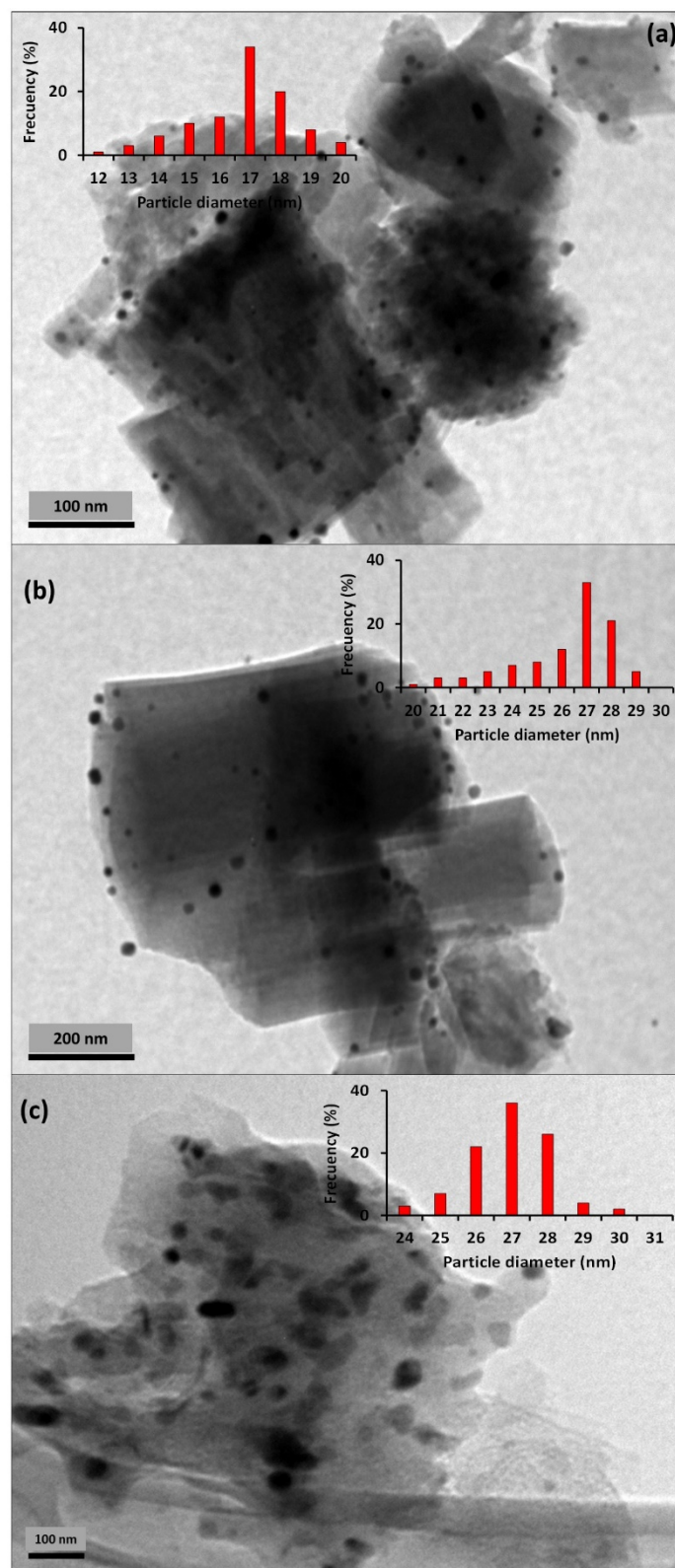


Figure S4: Representative TEM micrographs of the different 1wt% Pt inorganic catalysts used in this work: (a) Pt/L; (b) Pt/Y; (c) Pt/MgZr.

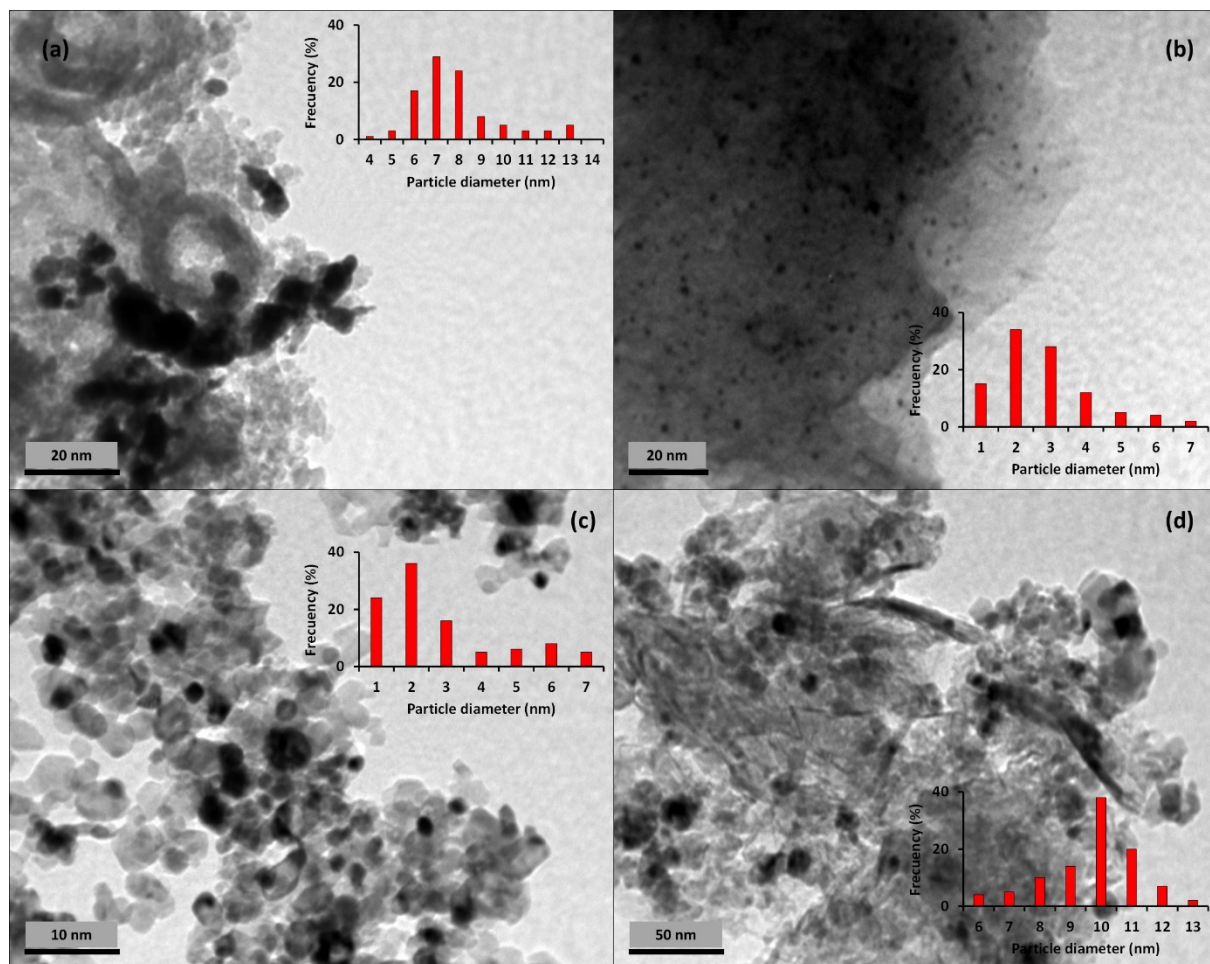


Figure S5: Representative TEM micrographs of the different 1wt% Pt organic catalysts used in this work: (a) Pt/HSAG; (b) Pt/AC (WI); (c) Pt/AC (IE); (d) Pt/MgZr/HSAG

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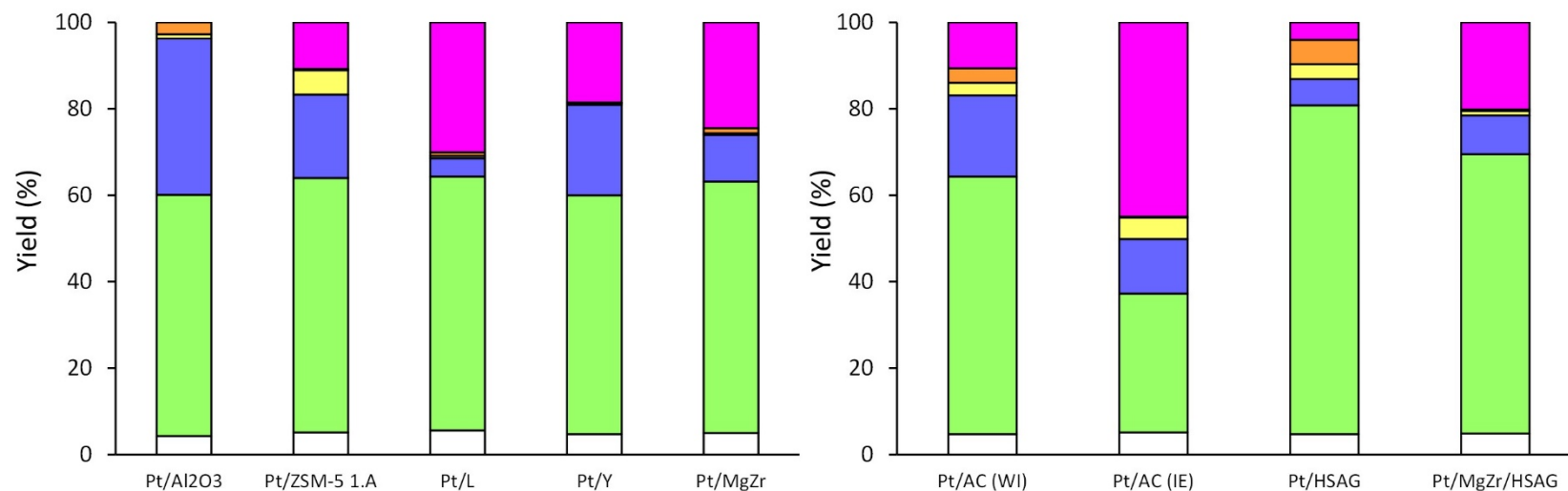


Figure S6: Comparison of selectivities obtained with the different inorganic and organic materials at 95 % of C8-condensated conversion. Colors: (○) C8-condensated; (●) “B”; (●) “C”; (●) “D”; (●) “E”; (●) “Others”. Results related to the Pt/Al₂O₃ are adapted from *ref. 13*.

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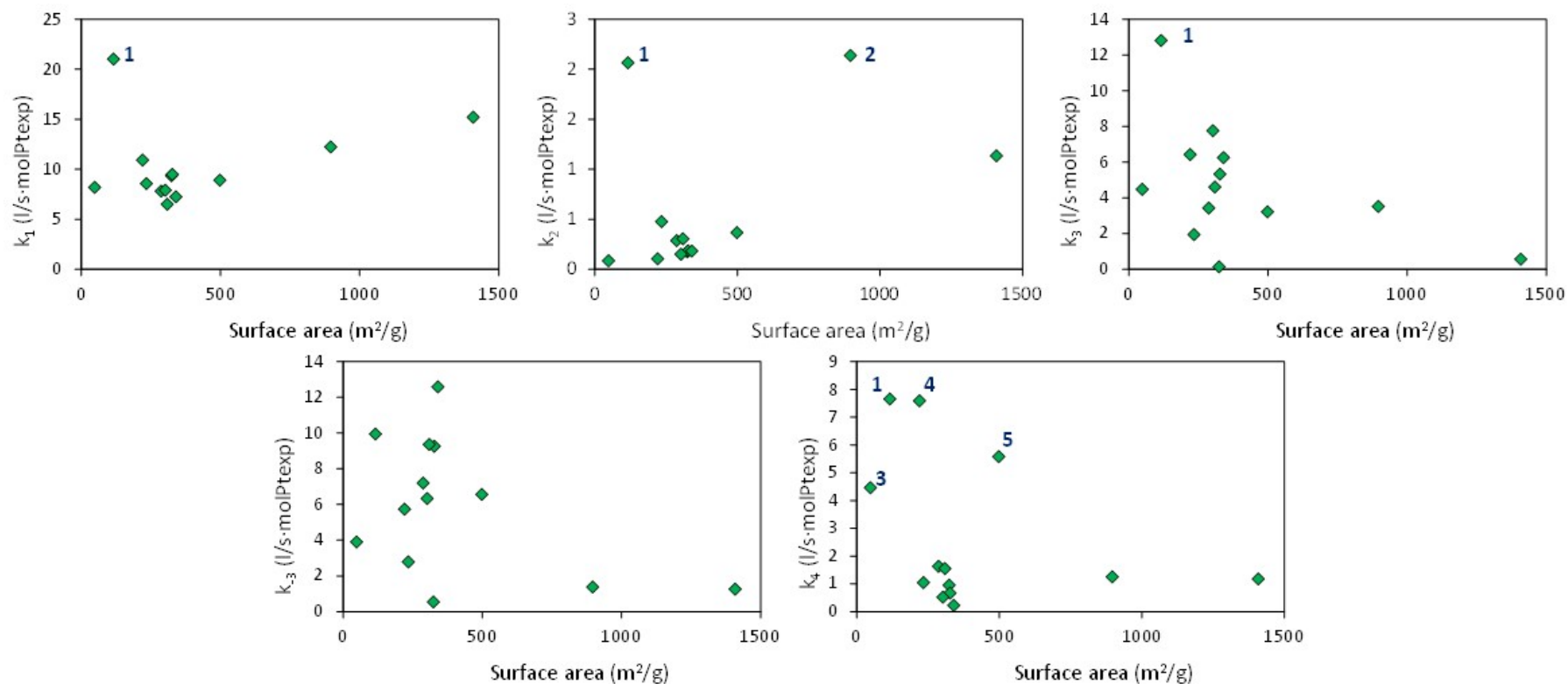


Figure S7: Correlation between the values of the kinetic constants and the specific surface area of each catalyst. Codes: (1) Pt/ Al_2O_3 ; (2) Pt/AC (IE); (3) Pt/MgZr; (4) Pt/Y; (5) Pt/HSAG.

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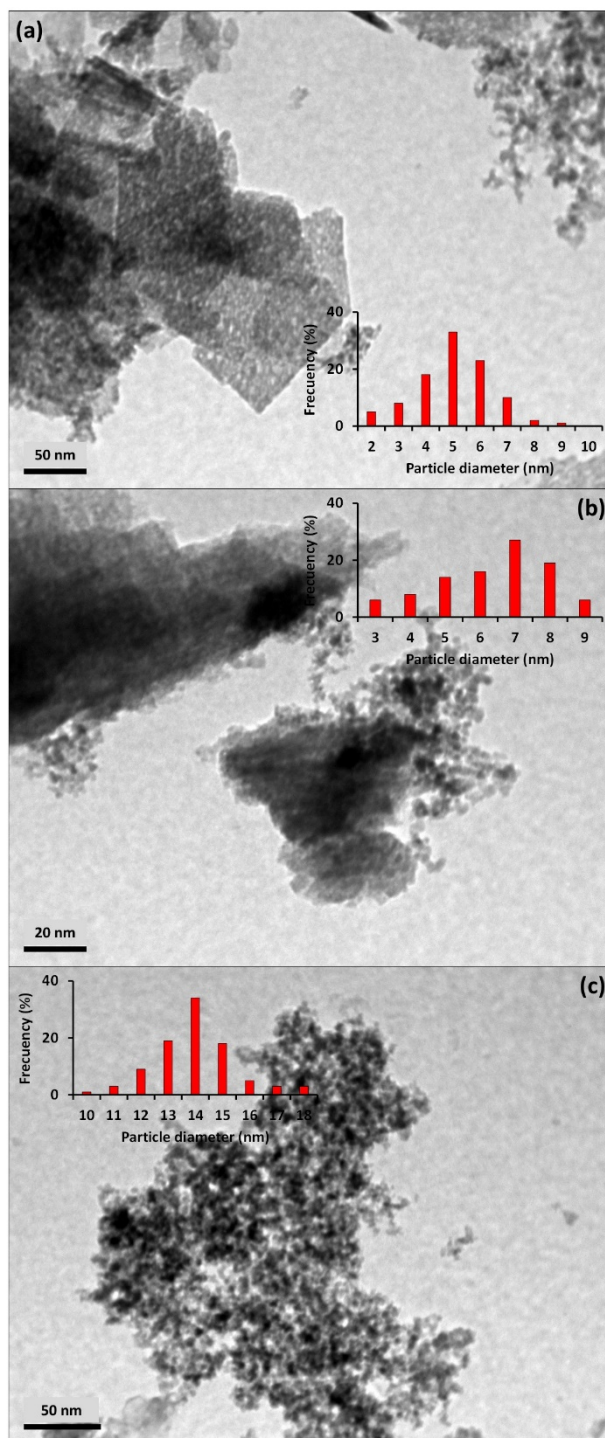


Figure S8: Representative TEM micrographs of the spent catalysts after the sixth reaction cycle: (a) Pt/Al₂O₃; (b) Pt/AC; (c) Pt/HSAG.