Supplementary Information

Selective aqueous phase oxidation of 5-hydroxymethylfurfural to 2,5-furandicarboxylic acid over Pt/C catalysts: Influence of the base and effect of bismuth promotion.

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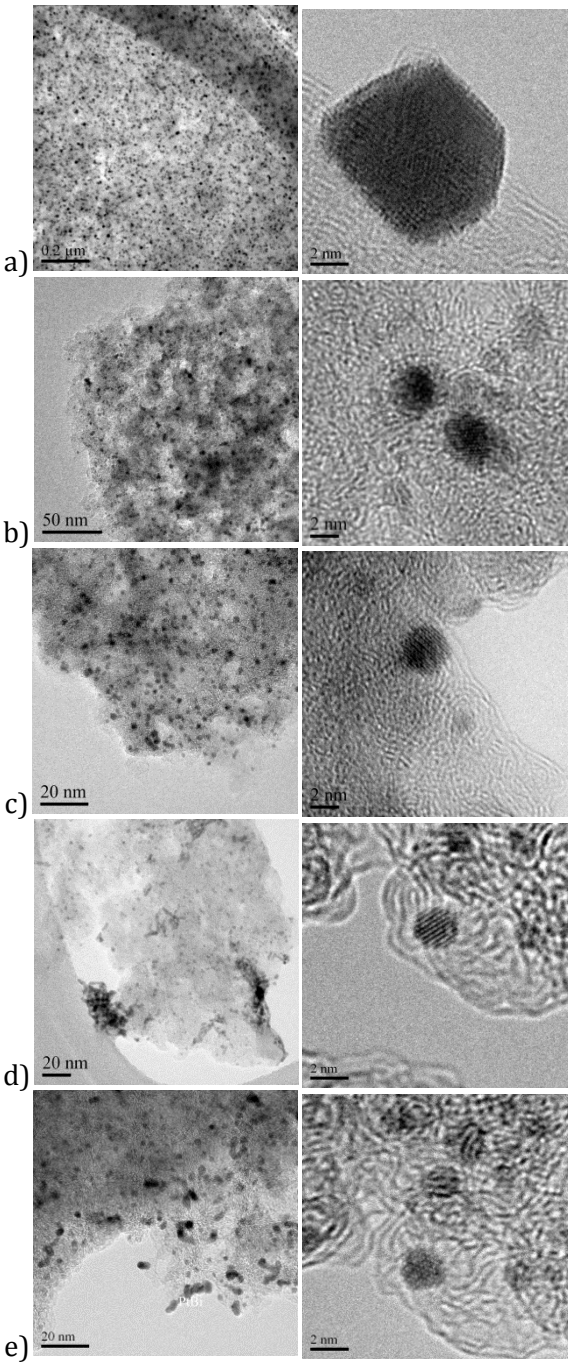

Fig. S1 TEM images of (a) 3.3%Pt_{ex}/C_{L3S}, (b) 3.6%Pt_{imp}/C_{L3S}, (c) 3.6%$_{Ptimp}$0.9%Bi/C_{L3S}, (d), 5.1%Pt_{imp}/C_{3SW} and (e) 5.1%Pt_{imp}1%Bi/C_{3SW}.

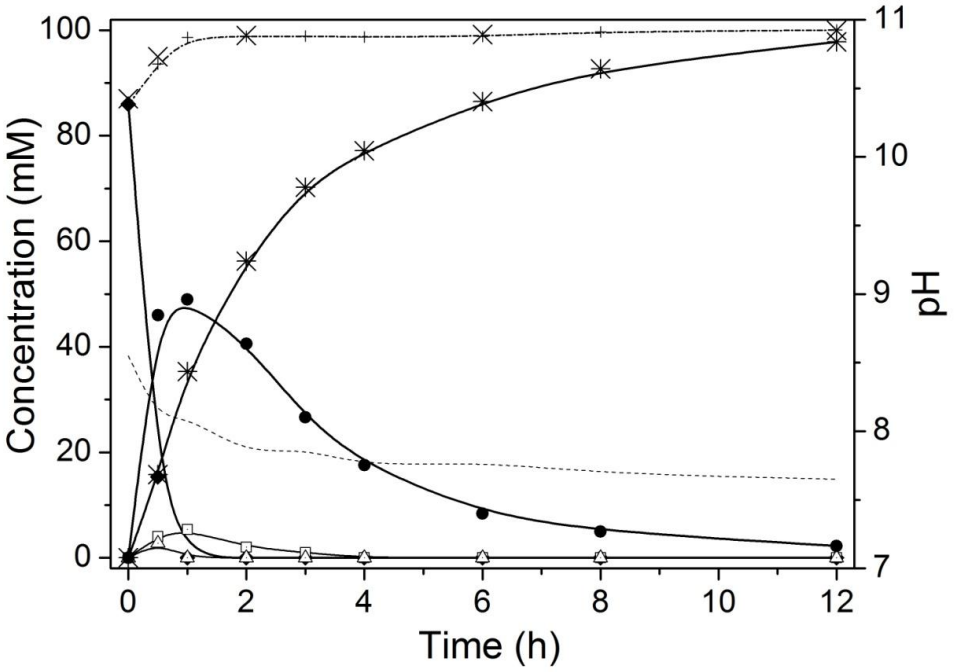

Fig. S2 Evolution of concentrations of HMF and products DFF, HMFCA, FFCA, and FDCA as a function of time over (a) 3.6%Pt_{imp}/C_{L3S} after further reduction at 300°C under H_2 in the presence of $NaHCO_3$ ($NaHCO_3$/HMF = 4).
◆ HMF, △ DFF, □ HMFCA, ● FFCA, ✳ FDCA, + molar balance, × TOC and --- pH

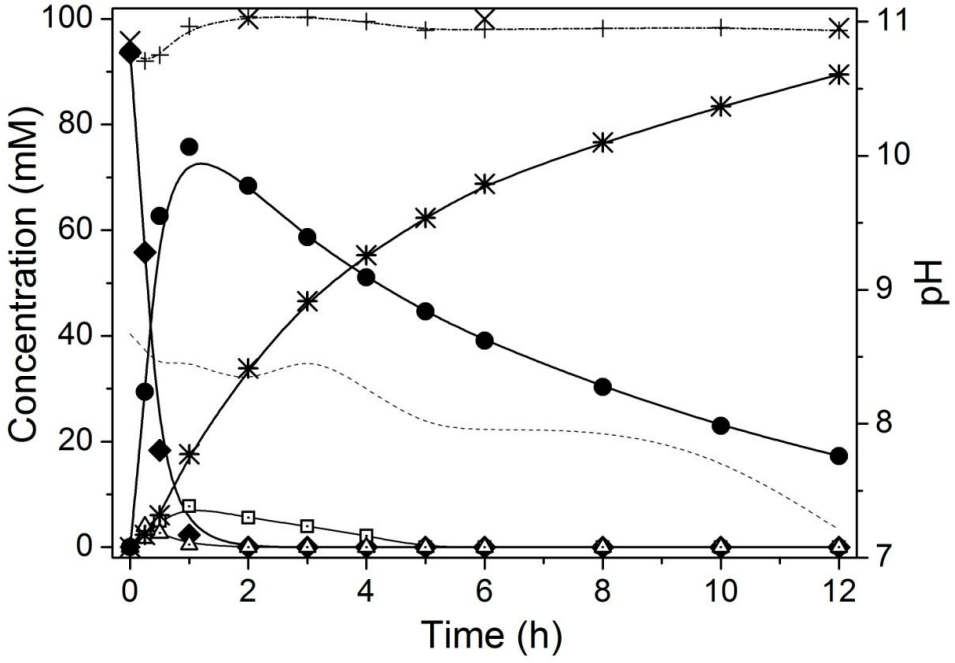

Fig. S3 Evolution of concentrations of HMF and products DFF, HMFCA, FFCA, and FDCA as a function of time over 5.1%Pt_{imp}/C_{3SW}, in the presence of $NaHCO_3$ ($NaHCO_3$/HMF = 2)
◆ HMF, △ DFF, □ HMFCA, ● FFCA, ✳ FDCA, + molar balance, × TOC and --- pH

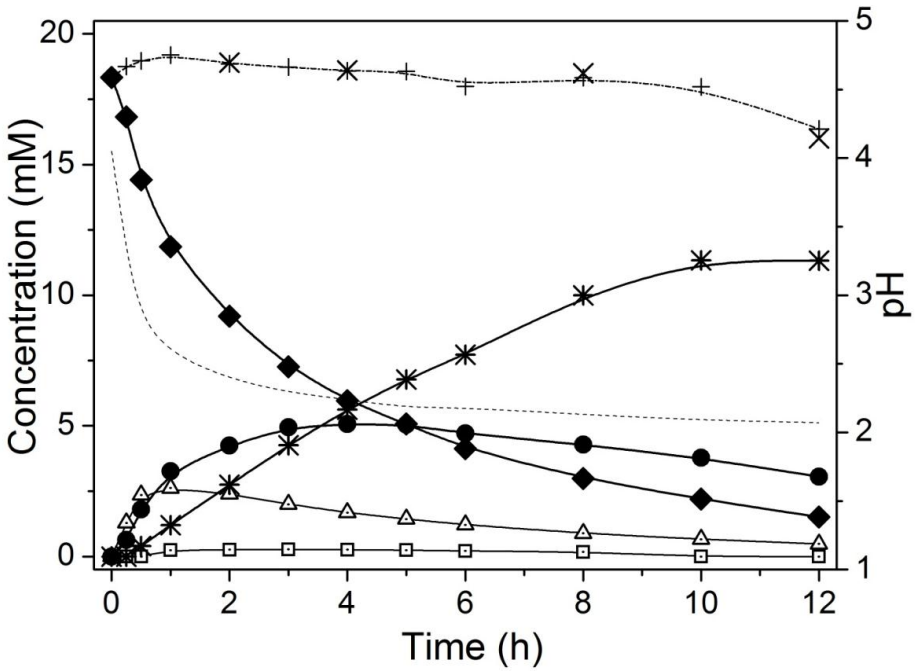

Fig. S4 Evolution of concentrations of HMF and products DFF, HMFCA, FFCA, and FDCA as a function of time over 5.1%Pt_{imp}/C_{3SW} under base free conditions (C_0(HMF) = 0.02 mol.L^{-1}, HMF/Pt=100); ◆ HMF, △ DFF, □ HMFCA, ● FFCA, ✳ FDCA, + molar balance, × TOC and --- pH

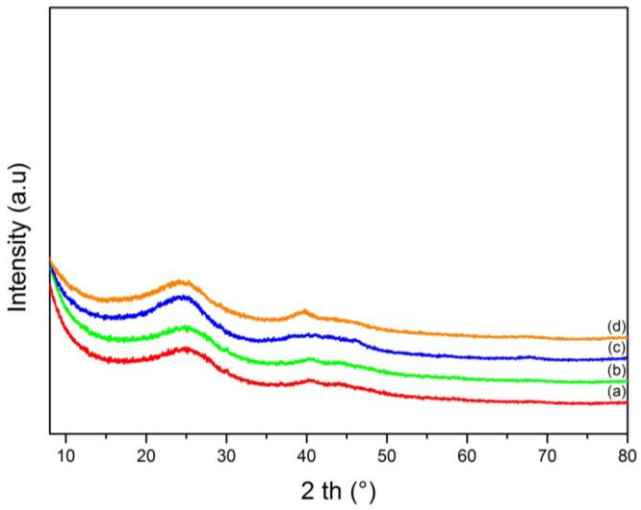

Fig. S5 XRD patterns of Pt and PtBi catalysts prepared by liquid impregnation method.
(a) 3.6%Pt_{imp}/C_{L3S}, (b) 3.6%Pt_{imp}0.9%Bi/C_{L3S} reduced under liquid phase conditions,
(c) 3.6%Pt_{imp}/C_{L3S}, (d) 3.6%Pt_{imp}0.9%Bi/C_{L3S} after further pre-treatment under hydrogen at 300°C