Supplementary Material

Performance of particulate and structured Pt/TiO₂-based catalysts for the WGS reaction under realistic high- and low-temperature shift conditions

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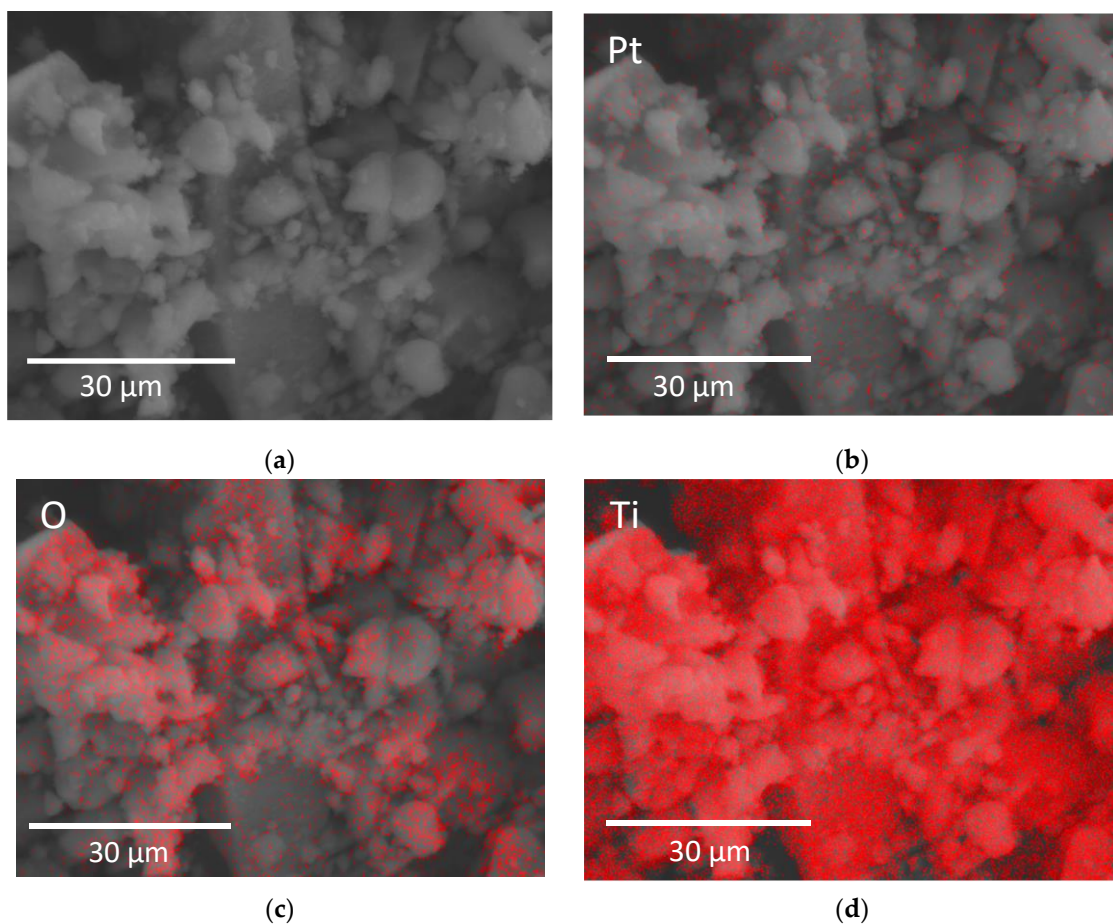* Correspondence: geoba@chemeng.upatras.gr; Tel.: +30 2610997223

Figure S1. (a) SEM image of the as prepared Pt/TiO₂ catalyst, and EDS mapping results showing the distribution of (b) Pt, (c) O and (d) Ti elements.
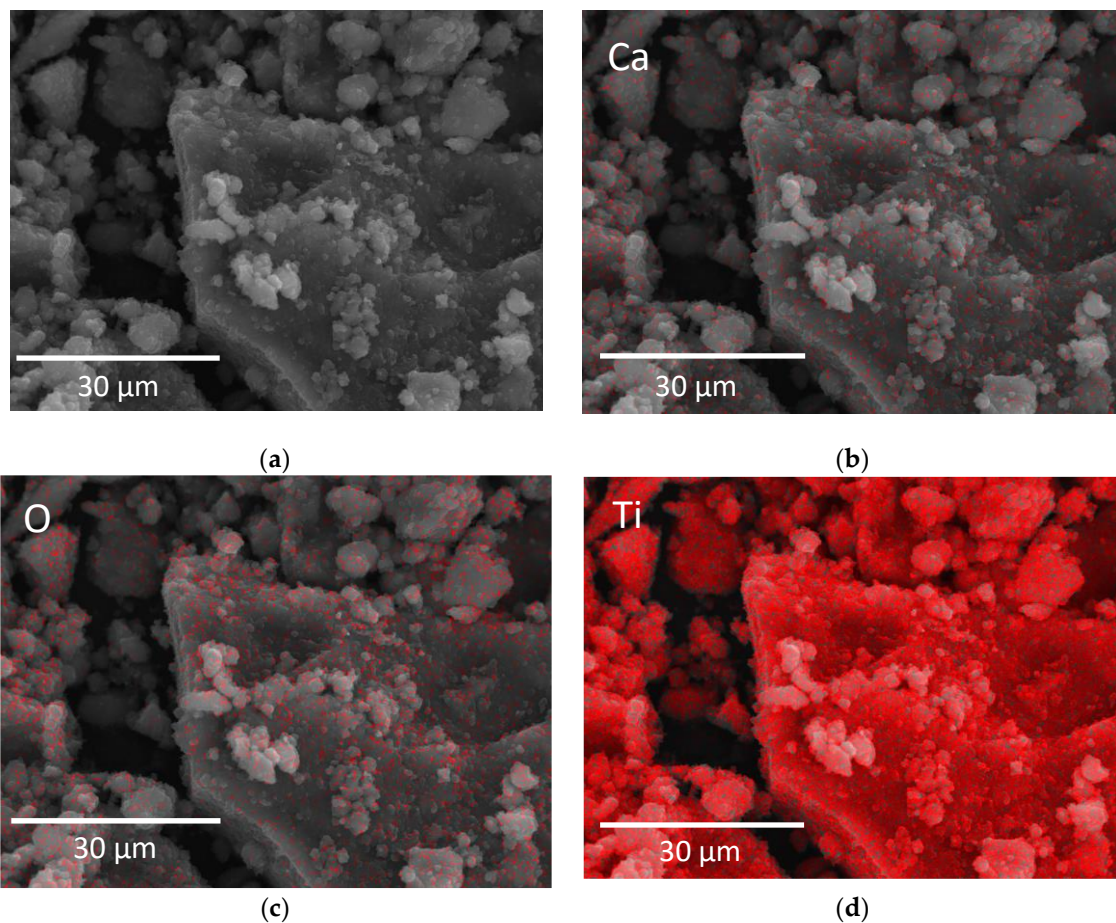
Figure S2. (**a**) SEM image of the as prepared $TiO_2(Ca)$ support, and EDS mapping results showing the distribution of (**b**) Ca, (**c**) O and (**d**) Ti elements.
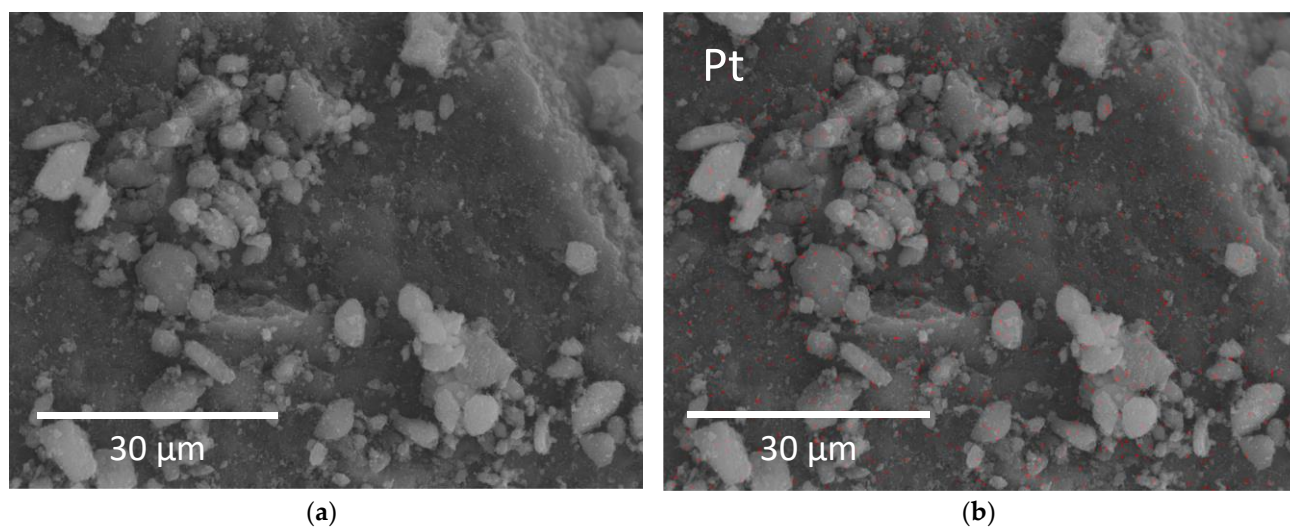

Figure S3. (**a**) SEM image of the Pt/$TiO_2(Ca)$ catalyst and (**b**) EDS mapping results showing the distribution of Pt element.
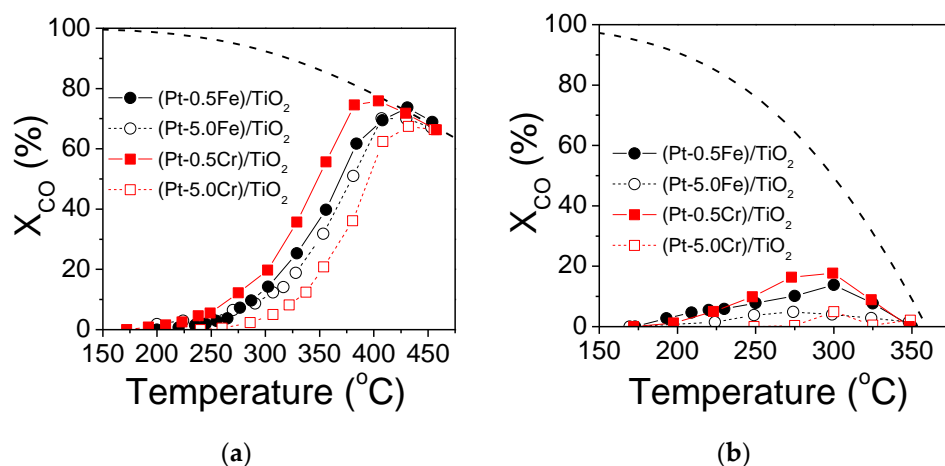
Figure S4. Effects of the metal content on the performance of bimetallic (0.5%Pt-x%M)/TiO$_2$ catalysts (x=0.5 or 5.0; M=Fe or Cr) under (A) HTS and (B) LTS conditions. Experimental conditions same as in Figure 3.
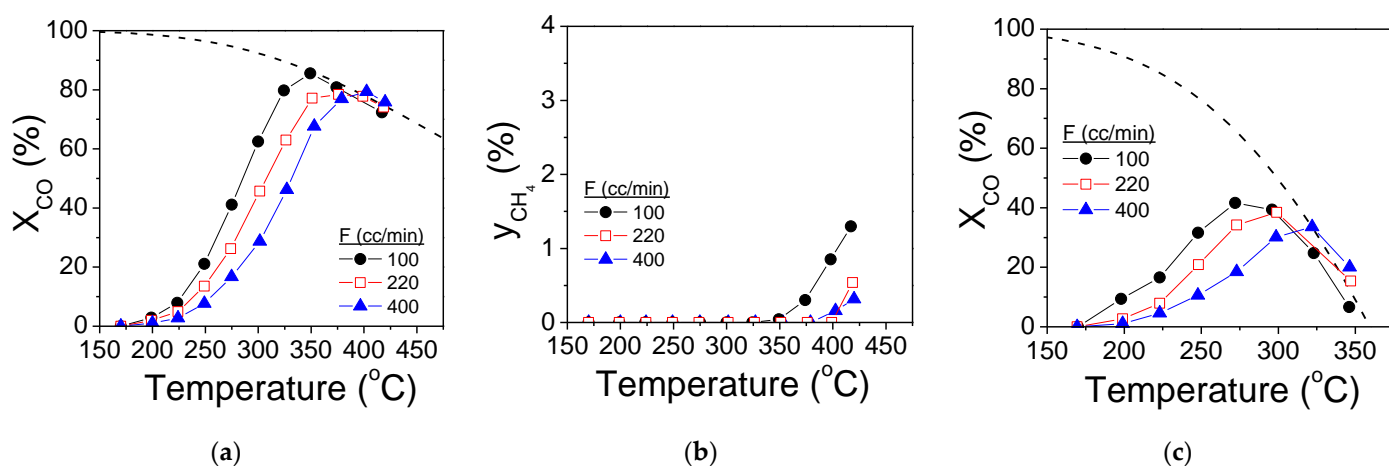

Figure S5. Effects of total flow rate on the performance of Pt/TiO$_2$(Ca) catalysts coated on the channels of the ceramic monolith: (A) Conversion of CO and (B) yield of CH$_4$ under HTS conditions. (C) Conversion of CO under LTS conditions. Other experimental conditions same as in Figure 5.
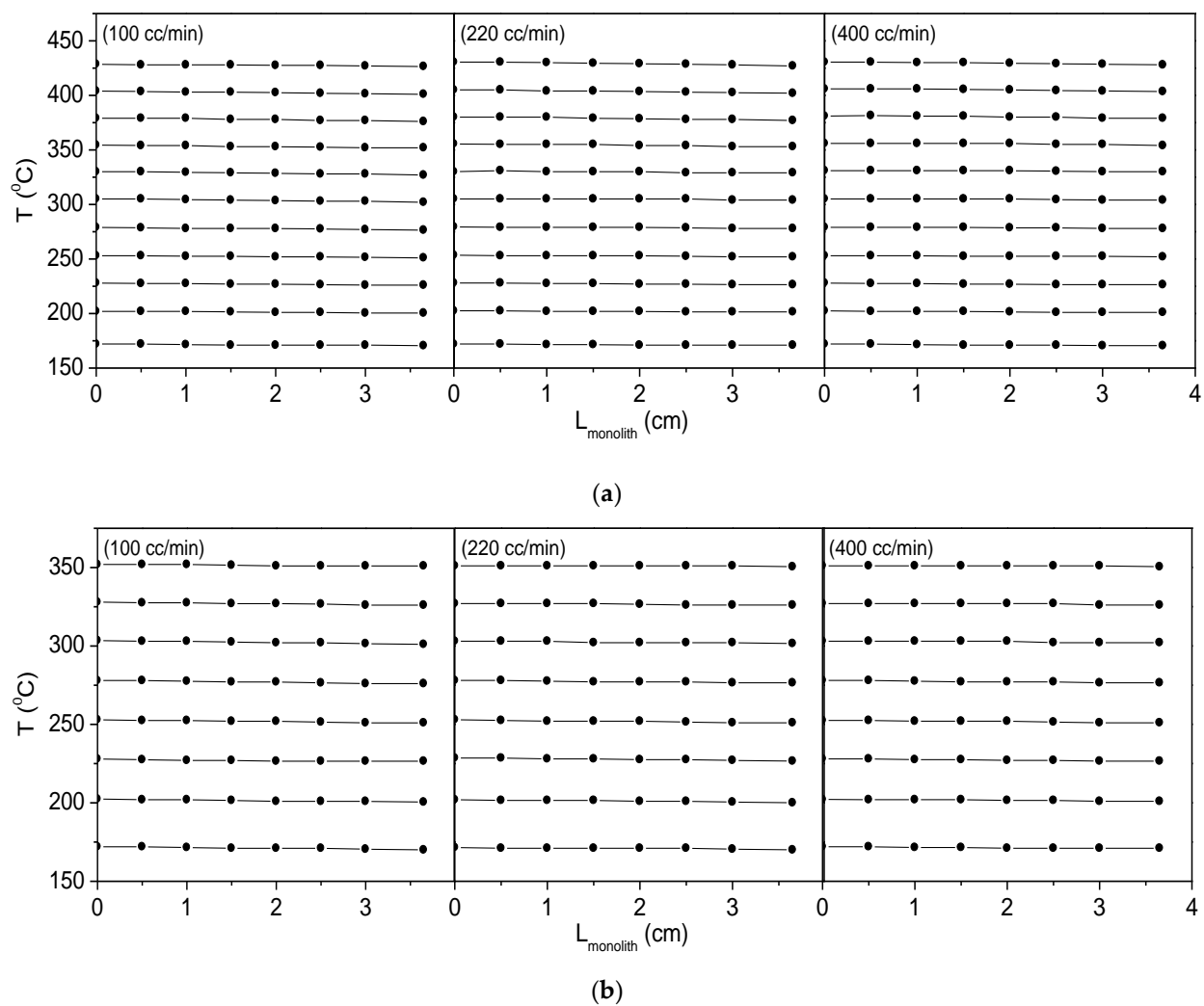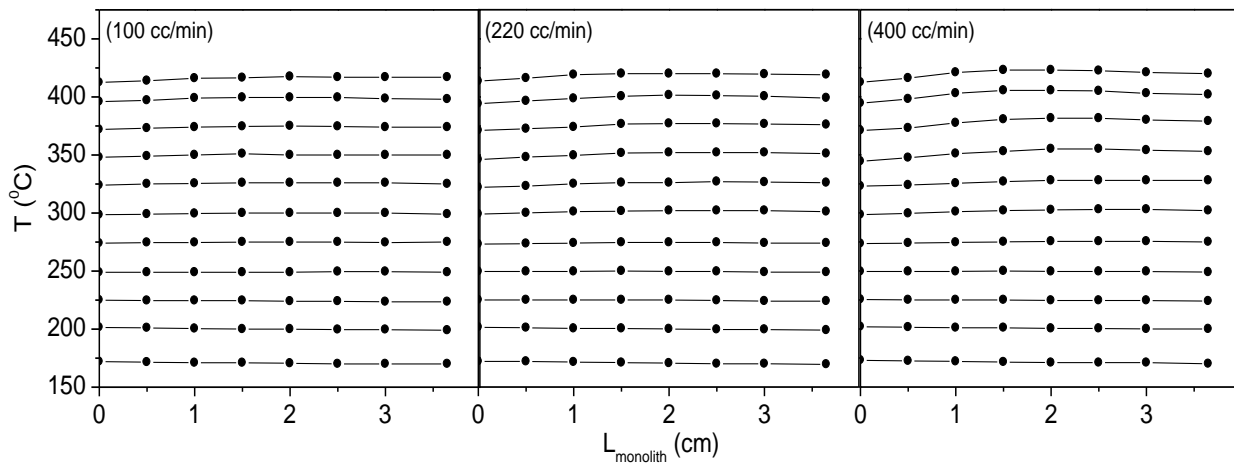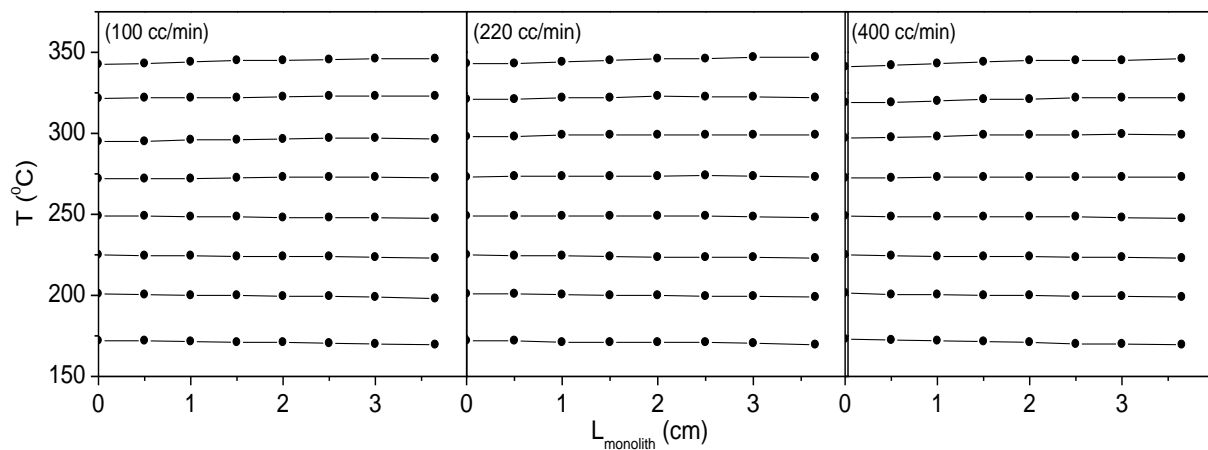
Figure S6. Temperature profile along the Pt/TiO$_2$(Ca)-coated metallic monolith (inlet at *L*=0) at the indicated total flow rates under the (**a**) HTS and (**b**) LTS reaction conditions shown in Figure 6.

Figure S7. Temperature profile along the Pt/TiO$_2$(Ca)-coated ceramic monolith (inlet at L=0) at the indicated total flow rates under the (**a**) HTS and (**b**) LTS reaction conditions shown in Figure 6.