Electronic Supplementary Information for

Liquid Phase Oxidation of Alcohols with Oxygen: *in situ* Monitoring of the Oxidation State of Bi-Promoted Pd/Al₂O₃

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Supplementary Figure
Oxidation state of Bi in Bi-Pd/Al₂O₃ during the reaction series shown in Fig. 1, illustrated by XANES spectra at the Bi L₃-edge. The spectra were taken in He-saturated toluene (1: t
= 70 min in Fig. 1; reference to oxidized Bi), in He-saturated solution of 1-phenylethanol (2: t = 222 min; reference to reduced Bi), in air-saturated solution of 1-phenylethanol (3: t = 320 min), in O₂-saturated solution of 1-phenylethanol toluene (4: t = 443 min; 5: t = 524 min; 6: t = 545 min, not shown in Fig. 1) and in O₂-saturated toluene (7: t = 566 min, not shown in Fig. 1). It is shown that Bi remains in a reduced state during feeding air (spectrum 3), but is successively re-oxidized in O₂-feed (spectrum 4–6).