Supporting Information for

## Modifying the Reactivity in the Homologation of Propane by Introducing Aryloxide Ligands on Silica Supported Zirconium Alkyl System

Geoffroy Guillemot, Chloé Thieuleux,\* Christophe Copéret, Daravong Soulivong, Stefan

Spitzmesser, and Jean-Marie Basset\*

Contribution from Laboratoire de Chimie Organométallique de Surface (UMR 9986 CNRS / ESCPE Lyon), ESCPE Lyon, 43 Boulevard du 11 Novembre 1918, F-69616 Villeurbanne Cedex, France and INEOS Rue de Ransbeek 310, 1120 Brussels, Belgium



Figure S1. Conversion as a function of time (black line) and TON as a function of time (blue line).



Figure S2. Selectivities as a function of time.



Figure S3. <sup>1</sup>H MAS solid-state NMR (top) and <sup>13</sup>C CP-MAS solid-state NMR (bottom) of  $2/SiO_{2-[700]}$  (recorded under MAS of 10 kHz).



**Figure S4.** <sup>1</sup>H MAS solid-state NMR (top) and <sup>13</sup>C CP-MAS solid-state NMR (bottom) of  $3/SiO_{2-[700]}$  (recorded under MAS of 10 kHz).