Figure 1. Advancing and receding contact angles of water on $\alpha$-Al$_2$O$_3$ (0001) plates after heat treatment at various temperatures.

Figure 2. Zeta potential on $\alpha$-Al$_2$O$_3$ particles as a function of pH at room temperature.
Figure 3. Al (2p) peak and its interpretation on $\alpha$-Al$_2$O$_3$ (0001) plates after various thermal treatments: (a) room temperature (i.e. no treatment), (b) 15 h at 500 °C, (c) 15 h at 1050 °C.