## Supplementary Material (ESI) for Green Chemistry This journal is © The Royal Society of Chemistry 2007

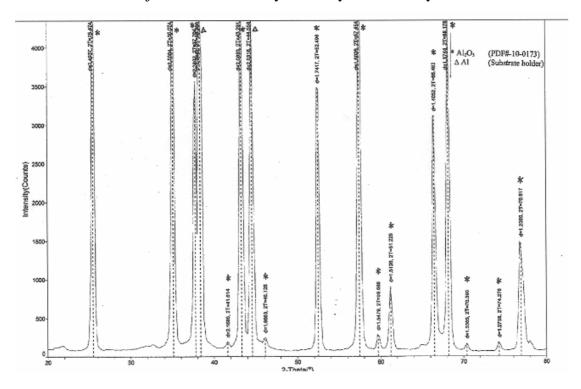


Figure 1 The XRD pattern for alumina powder.

## Supplementary Material (ESI) for Green Chemistry This journal is © The Royal Society of Chemistry 2007

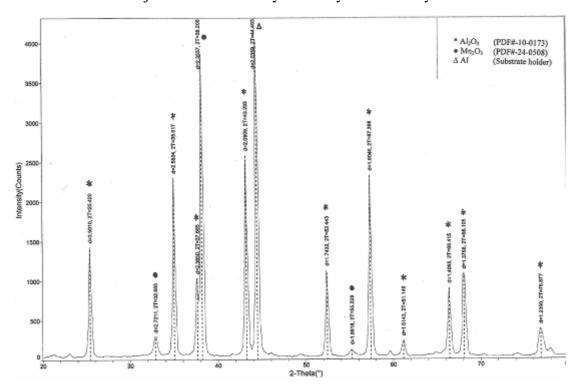


Figure 2. The XRD pattern for the fresh  $2\% Ru/(Al_2O_3+MnOx)$  catalyst

## Supplementary Material (ESI) for Green Chemistry This journal is © The Royal Society of Chemistry 2007

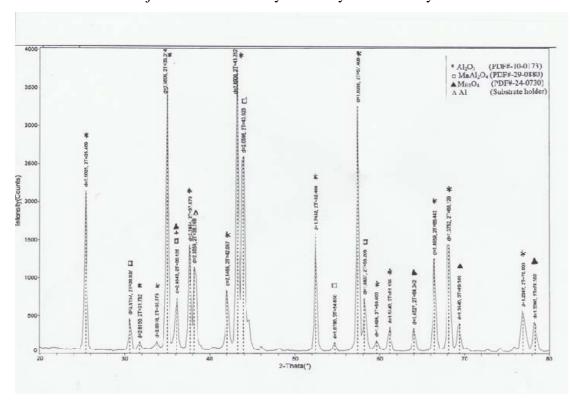


Figure 3. The XRD pattern for the 2%Ru/(Al<sub>2</sub>O<sub>3</sub>+MnOx) catalyst after reaction,