

Supplementary Materials

Potential Applications in Relation to the Various Physicochemical Characteristics of Al-Hasa Oasis Clays in Saudi Arabia

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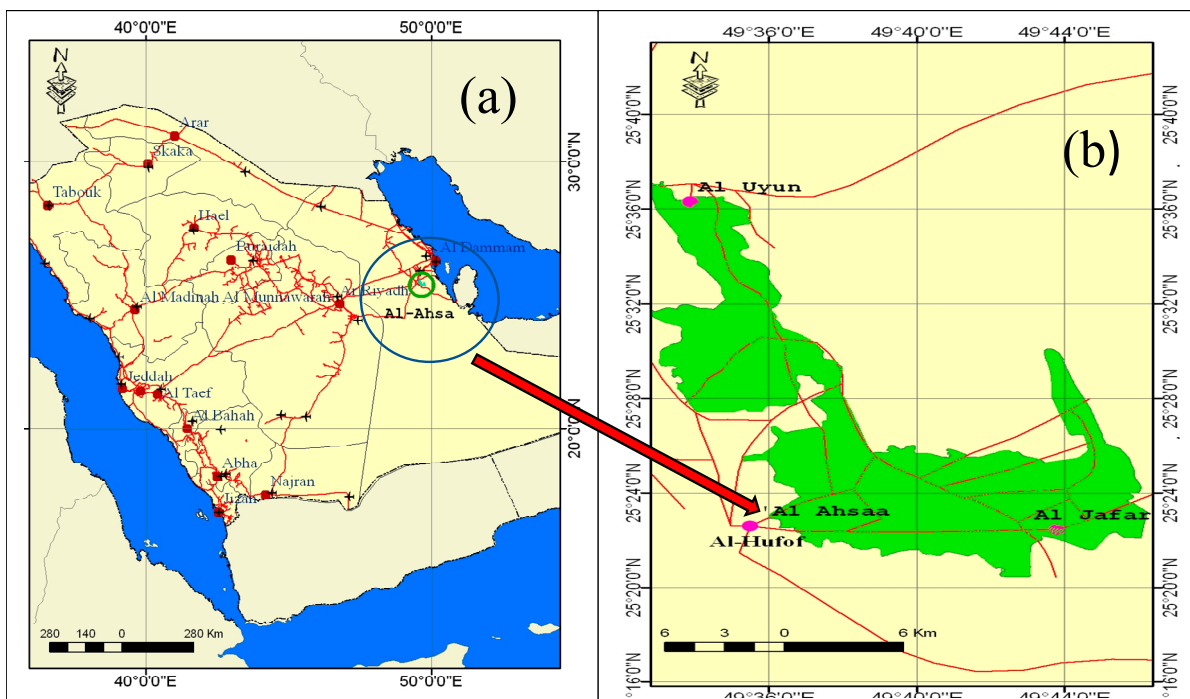


Figure S1. Localization of Al-Hasa oasis in Saudi Arabia.

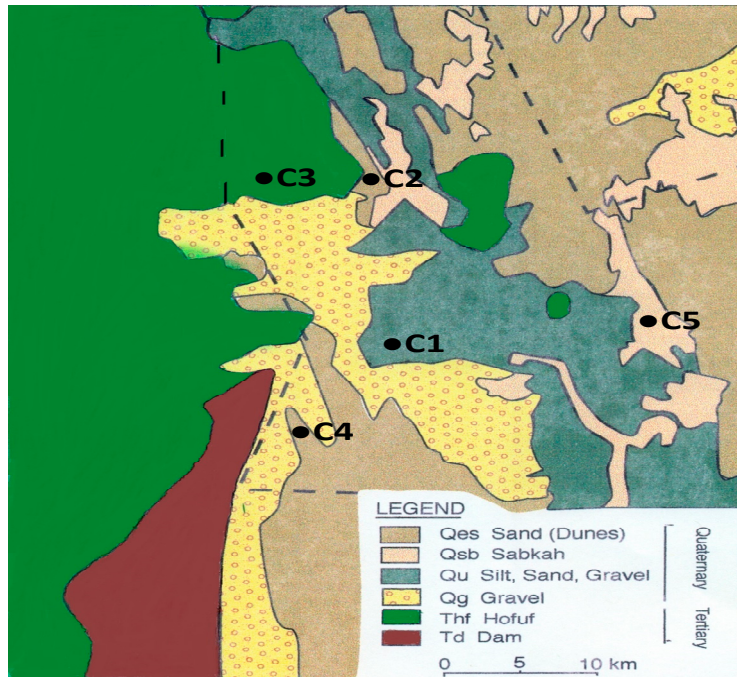


Figure S2. Localization of in the study clays soil-sites in Al-Hasa oasis.

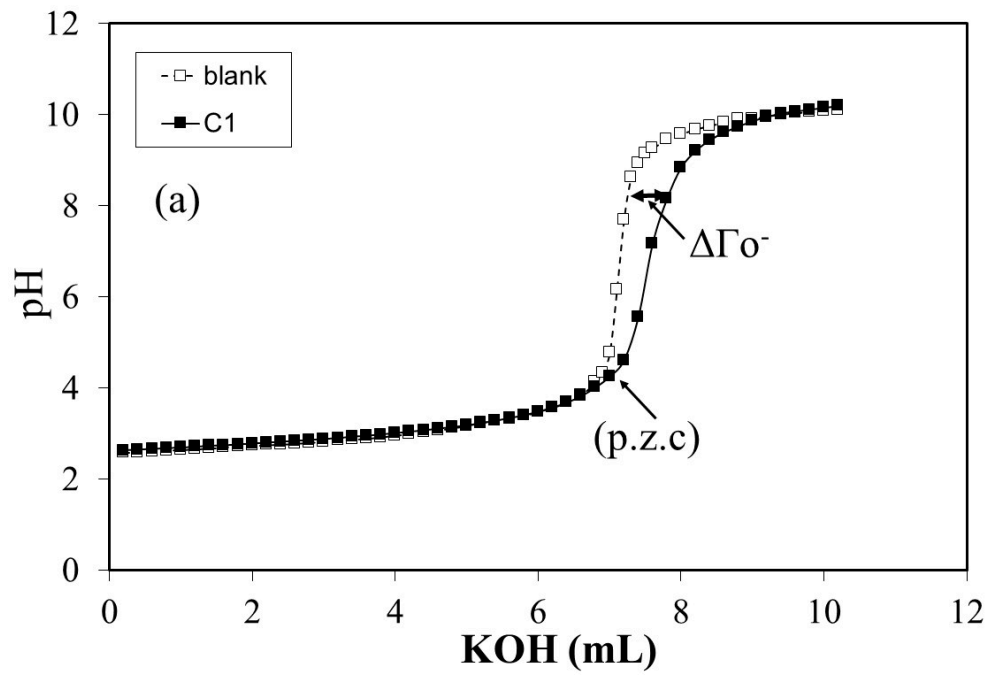


Figure S3. Typical titration curves of 25 mL 0.004 mol L⁻¹ HCl + 25 m L 0.02 mol L⁻¹ KCl. Titration with 0.042 mol L⁻¹ KOH in the absence (□, curve) and in the presence (■, curve) of clay (a) C1.

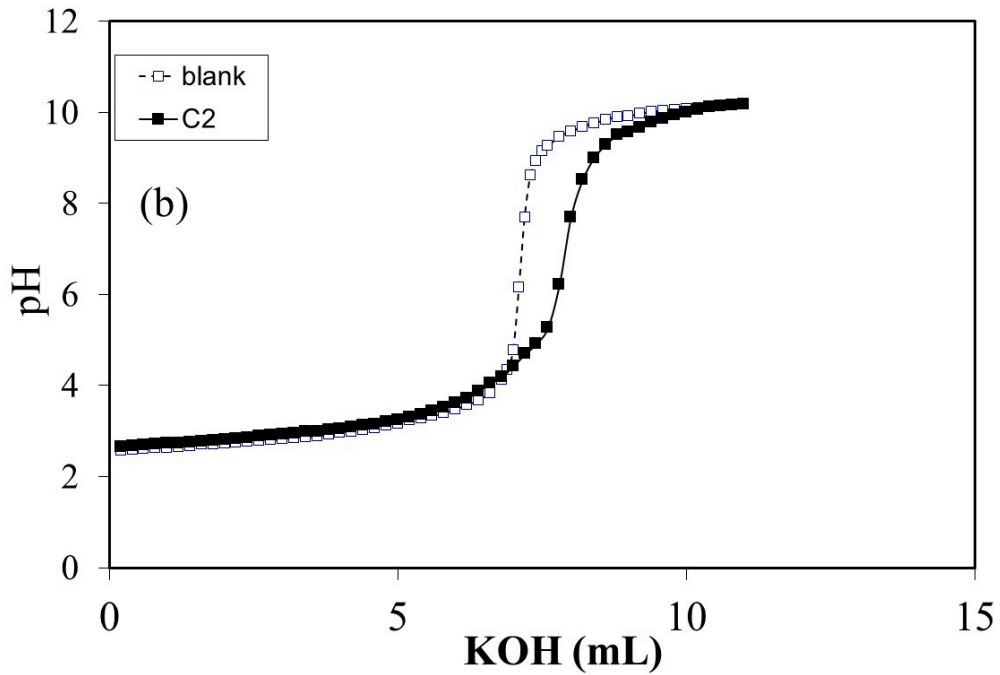


Figure S4. Typical titration curves of 25 mL 0.004 mol L⁻¹ HCl + 25 mL 0.02 mol L⁻¹ KCl. Titration with 0.042 mol L⁻¹ KOH in the absence (□, curve) and in the presence (■, curve) of clay (b) C2.

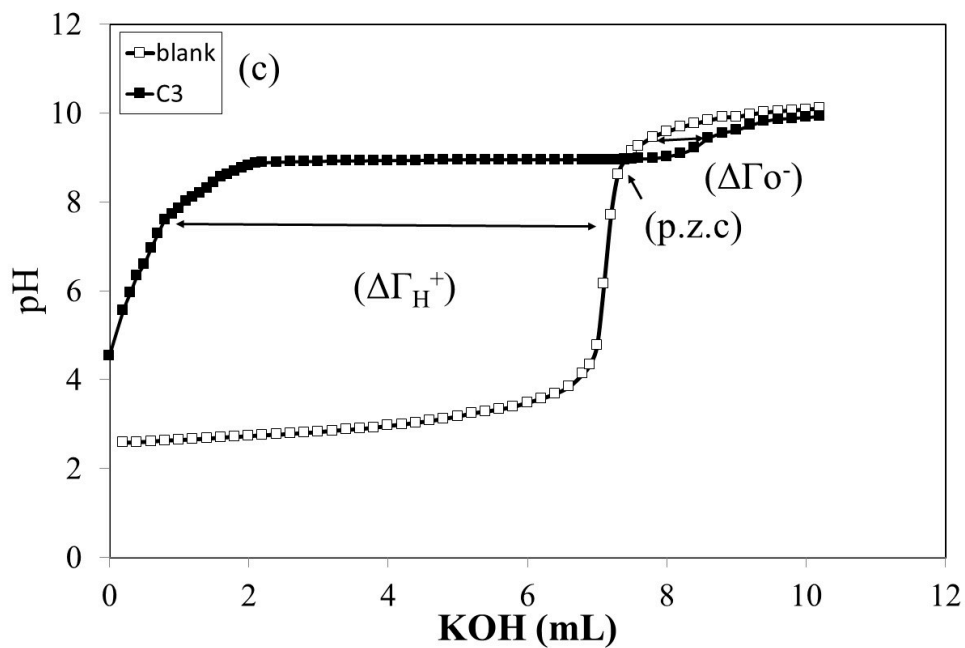


Figure S5. Typical titration curves of 25 mL 0.004 mol L⁻¹ HCl + 25 mL 0.02 mol L⁻¹ KCl. Titration with 0.042 mol L⁻¹ KOH in the absence (□, curve) and in the presence (■, curve) of clay (c) C3.

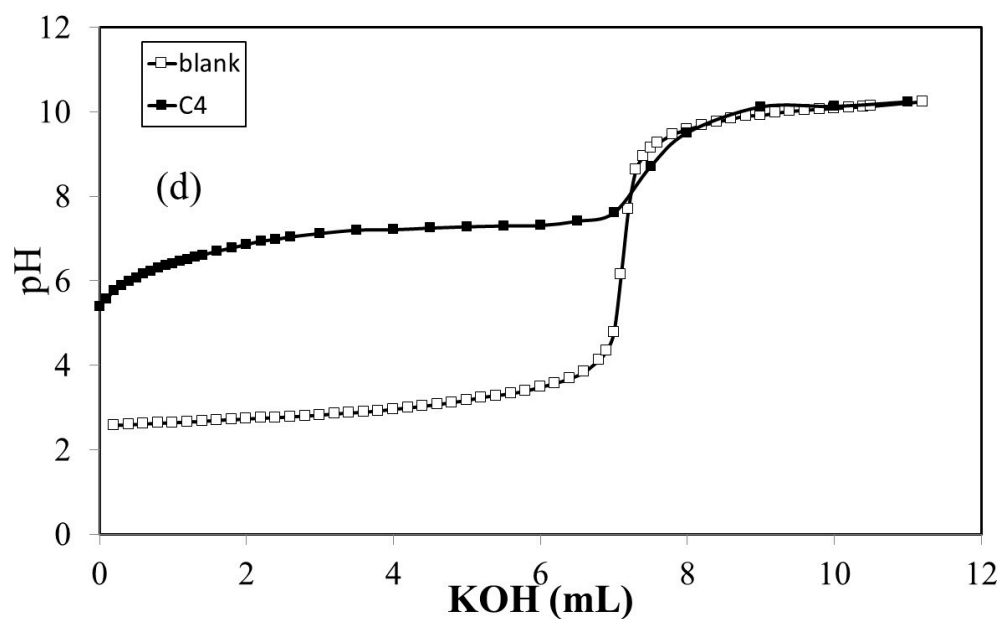


Figure S6. Typical titration curves of 25 mL 0.004 mol L⁻¹ HCl + 25 mL 0.02 mol L⁻¹ KCl. Titration with 0.042 mol L⁻¹ KOH in the absence (□, curve) and in the presence (■, curve) of clay (d) C4.

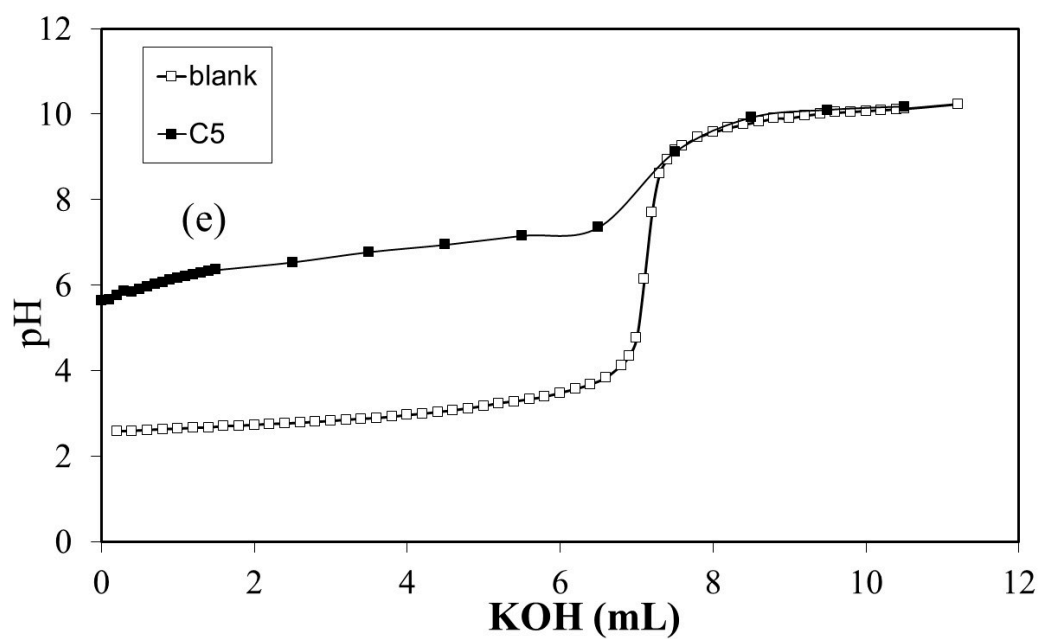


Figure S7. Typical titration curves of 25 mL 0.004 mol L⁻¹ HCl + 25 mL 0.02 mol L⁻¹ KCl. Titration with 0.042 mol L⁻¹ KOH in the absence (□, curve) and in the presence (■, curve) of clay (e) C5.

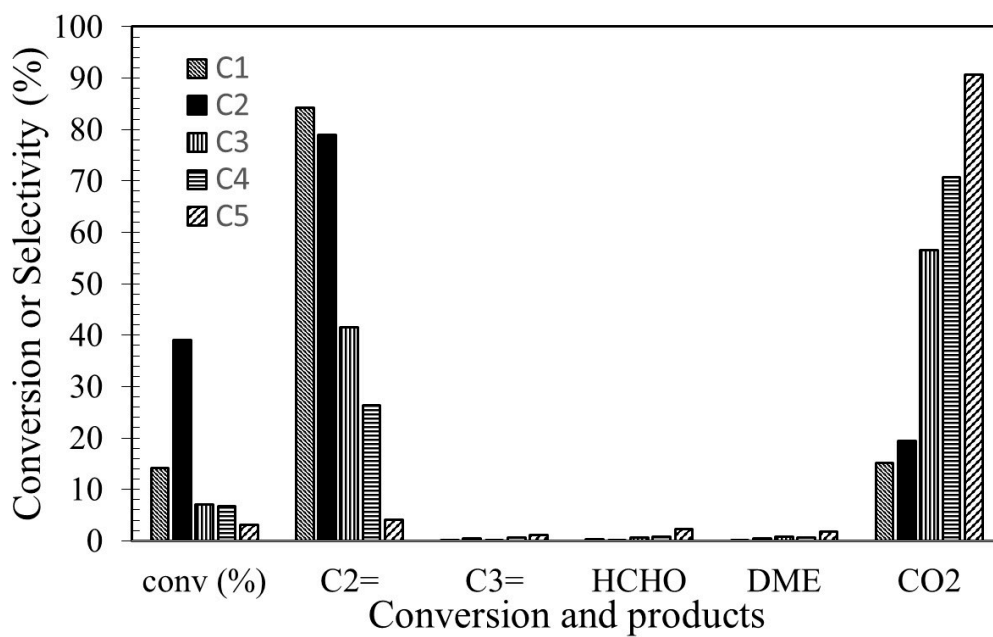


Figure S8. Catalytic performances (conversion (%) and selectivity (%)) of acid-activated clays under study in methanol dehydration (ethylene (C2=), propylene (C3=), formaldehyde (HCHO), dimethyl ether (DME) and carbon dioxide (CO₂)).