Electronic Supplementary Material (ESI) for RSC Advances

Mechanochemical processing of serpentine with ammonium salts under ambient conditions for CO_2 mineralization

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SUPPORTING INFORMATION

Table S1: Glossary of Compounds

Chemical name	Formula	Abbrev.	Mineral name	XRD (ICDD) reference pattern
Ammonium bicarbonate	NH_4HCO_3	ABC	Teschemacherite	00-009-0415
Serpentinite (class)	$(Mg,Al)_3[(Si,Fe)_2O_5](OH)_4$	—	Lizardite	00-050-1625
Ammonium carbonate	$(NH_4)_2CO_3$	—	—	—
Ammonium sulfate	$(NH_4)_2SO_4$	AS	Mascagnite	00-040-0660
Ammonium bisulfate	NH_4HSO_4	—	—	—
Ammonium magnesium sulfate hydrate	$(NH_4)_2Mg(SO_4)_2•6H_2O$	B	Boussingaultite	00-035-0771
Ammonium magnesium carbonate hydrate	$(NH_4)_2Mg(CO_3)_2•4H_2O$	A	Roguinite	00-033-0066
Magnesium sulfate heptahydrate	$MgSO_4•7H_2O$	—	Epsomite	01-072-0696
Magnesium oxide	MgO	—	Periclase	00-004-0829
Magnesium hydroxide	$Mg(OH)_2$	—	Brucite	00-001-1169
Magnesium carbonate trihydrate	$MgCO_3•3H_2O$	N	Nesquehonite	01-070-1433

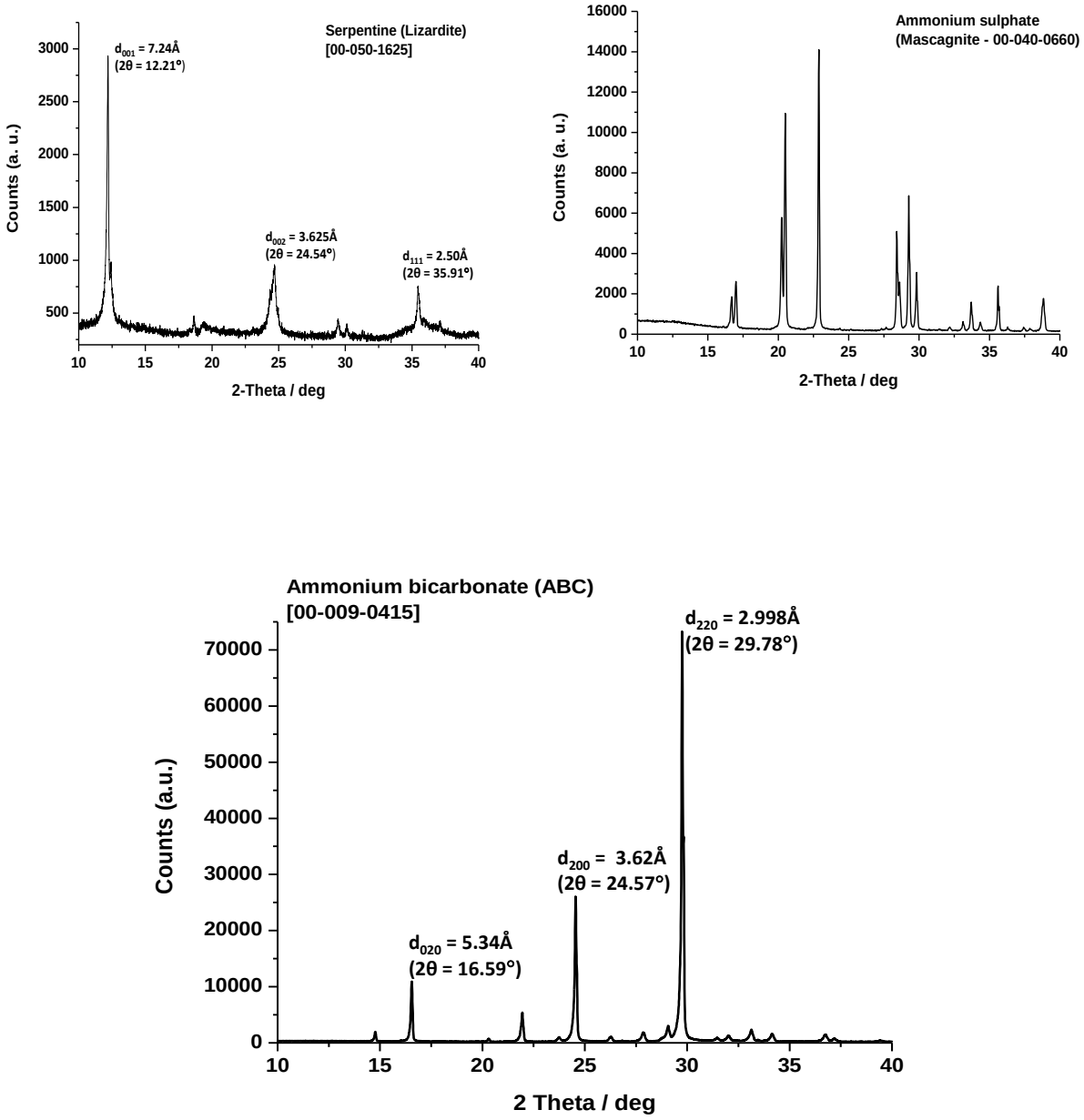

Fig. S2: Reference XRD patterns for Lizardite, ammonium sulphate, and ammonium bicarbonate