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FLUORINATED SURFACES

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The reaction of amorphous silica, silica gels and alumina with ammonium fluoride and potassium fluoride have been studied. Fluorination of silicas can lead to the formation of SiF_6^{2-} , surface $(\text{SiO})_3\text{SiF}$ and other Si-F species even under mild conditions [1]. Relatively stable alumina materials containing adsorbed F^- can be produced and these are capable of acting as powerful solid bases [2]. Data from the use of ^{19}F and ^{29}Si magic angle spinning n.m.r. and diffuse reflectance i.r. spectroscopy will be presented to support the proposed reaction pathways.

1 C.V.A. Duke, J.M. Miller and J.H. Clark, Spectrochimica Acta, in press.

2 T. Ando, S.J. Brown, J.H. Clark, D.G. Cork, T. Hanafusa, J. Ichihara, J.M. Miller and M.S. Robertson, J. Chem. Soc. Perk. II, 1133 (1986).