Summary of laboratory data for $\gamma$HO2 plotted as a function of temperature. Filled symbols denote the aerosol was doped with Cu. The colours represent composition as follows: red indicates sulfurous aerosol; green is Cl (or Br) containing salts i.e. sea salt; black is soot; yellow is ammonium nitrate; blue is water. The solid lines indicate temperature dependencies as found by Gershenzon et al. (1999) on NH$_4$NO$_3$, and Remorov et al. (2002) on solid NaCl. Error bars are given if quoted in the reference, and arrows indicate greater than/less than. The dot-dash line indicates the temperature dependence of the parameterisation in this work (assuming 50% relative humidity). The black dotted line indicates a value of 0.2, as recommended by Jacob (2000), and the dashed black line indicates the parameterisation of Thornton et al. (2008) (assuming pH=5, $r$=100 nm, $\alpha$=1, $[\text{HO2}]=10^8$ cm$^{-3}$), used by Mao et al. (2010). The letters indicate references as follows: (a) Mozuorkewich et al., 1987 (b) Hanson et al., 1992 (c) Gershenzon et al., 1995 (d) Cooper and Abbatt, 1996 (e) Gershenzon et al., 1999 (f) Thornton and Abbatt, 2005 (g) Taketani et al., 2008 (h) Taketani et al., 2009 (i) Loukhovitskaya et al., 2009 (j) Bedjanian et al., 2005 (k) Saathoff et al., 2001.