



FIGURE A2: Trends of the signal intensities of (A) the 1430 cm⁻¹ band (peak height), (B) the 930 cm⁻¹ band (integral), and (C) normalized carbonate intensity (A_{norm}) as function of the force level of the ATR crystal on the sample (SULm_10). Data points are the average of 4 measurements and the error bars correspond to their standard deviations (1σ). The sampling position is identical for all measurements. At level 3, the unnormalized intensities reach nearly constant values (A, B), indicating that optimum contact between ATR crystal and sample is reached. The normalized intensities A_{norm} lie within error for force levels 2 to 5 (C), indicating that the normalization can compensate at least those differences in contact that would correspond to a force level of 3 ± 1 . If the contact force is too low (e.g. force level 1) the normalization is not capable to fully compensate the weaker contact.