COMETARY ICE ANALOGS: TPD AND FTIR STUDY OF CO_2/H_2O ICES

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Frozen CO_2 is, after water, one of the main components of cometary nuclei. The structure of CO_2 ice in interaction with water ice depends on several factors, like deposition scheme, temperature or density. We present an investigation on ice mixtures of water and CO_2 and their variation with temperature, based on temperature programmed desorption (TPD) and infrared spectroscopy measurements. Two slightly different CO_2 structures are shown to exist, and their relative concentration is found to depend critically on the deposition sequence and temperature of the sample.