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Infrared Photodissociation Spectroscopy of Ion-Radical Networks in the Cationic Dimethylamine Complexes

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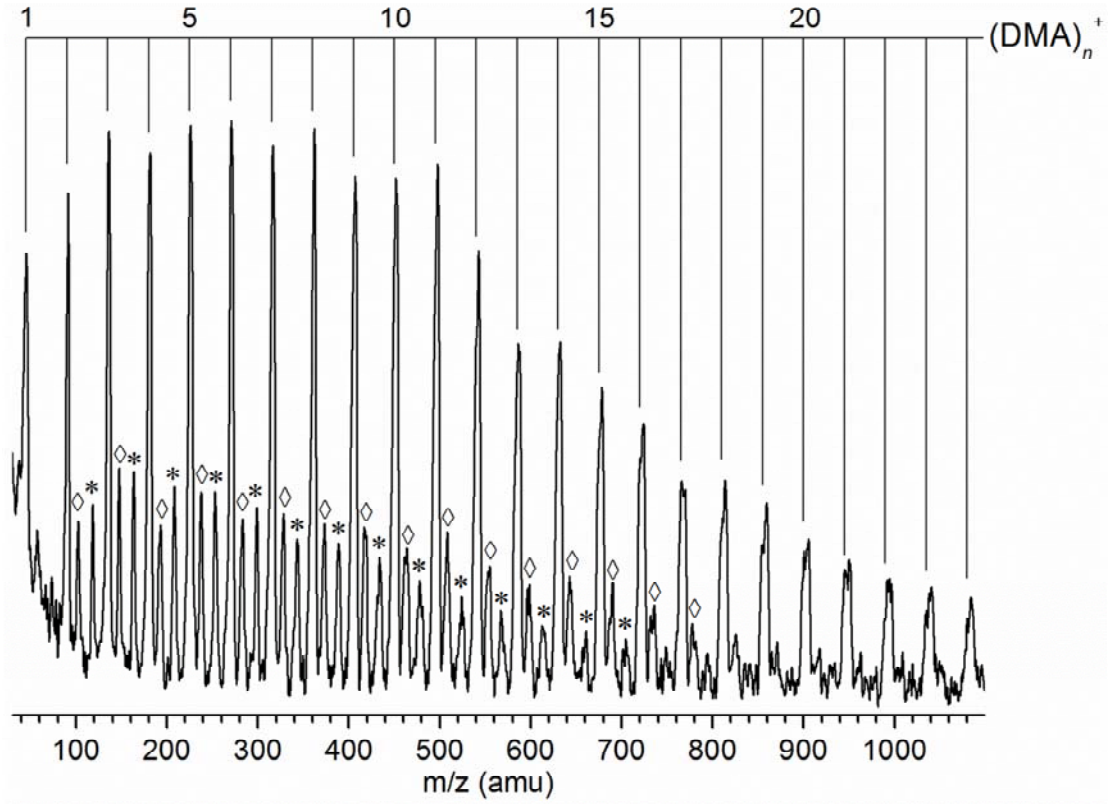

Fig. S1 Quadrupole mass spectrum of a 2.29% DMA/He gas mixture revealing the $(DMA)_n^+$ progressions. Further contributions correspond to $C^+(DMA)_n$ (denoted with "◊") and $(CNH_2)^+(DMA)_n$ (denoted with "∗").

Table S1. Lowest dissociation energies (E_{diss}) for the loss of one DMA molecule for $(DMA)_n^+$ (n = 3–8) obtained from the MP2/6-311+G(d,p) singlet point calculations on the MPW1K/6-311+G(d,p) optimized structures and the number of infrared photon required to overcome the dissociation limit.

$(DMA)_n^+$	E_{diss}	number of infrared photon required to overcome the dissociation limit at 3000 cm^{-1}
n = 3	85.81 kJ/mol (7173 cm^{-1})	3
n = 4	52.51 kJ/mol (4390 cm^{-1})	2
n = 5	46.44 kJ/mol (3882 cm^{-1})	2
n = 6	38.96 kJ/mol (3257 cm^{-1})	2
n = 7	37.83 kJ/mol (3162 cm^{-1})	2
n = 8	35.17 kJ/mol (2940 cm^{-1})	1