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(1)1A' - X1A' Electronic Transition of Protonated Coronene at 15 K

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The electronic spectrum of protonated coronene in the gas phase was measured at vibrational and rotational temperatures of similar to 15 K in a 22-pole ion trap. The (1) (1)A' $\leftarrow$ X (1)A' electronic transition of this larger polycyclic aromatic hydrocarbon cation has an origin band maximum at 14 383.8 $\pm$ 0.2 cm⁻¹ and shows distinct vibrational structure in the (1) (1)A' state. Neither the origin nor the strongest absorptions to the blue coincide with known diffuse interstellar bands, implying that protonated coronene is not a carrier.

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