

## Supplementary Information

### Cryogenic IR and UV spectroscopy of isomer-selected cytosine radical cation

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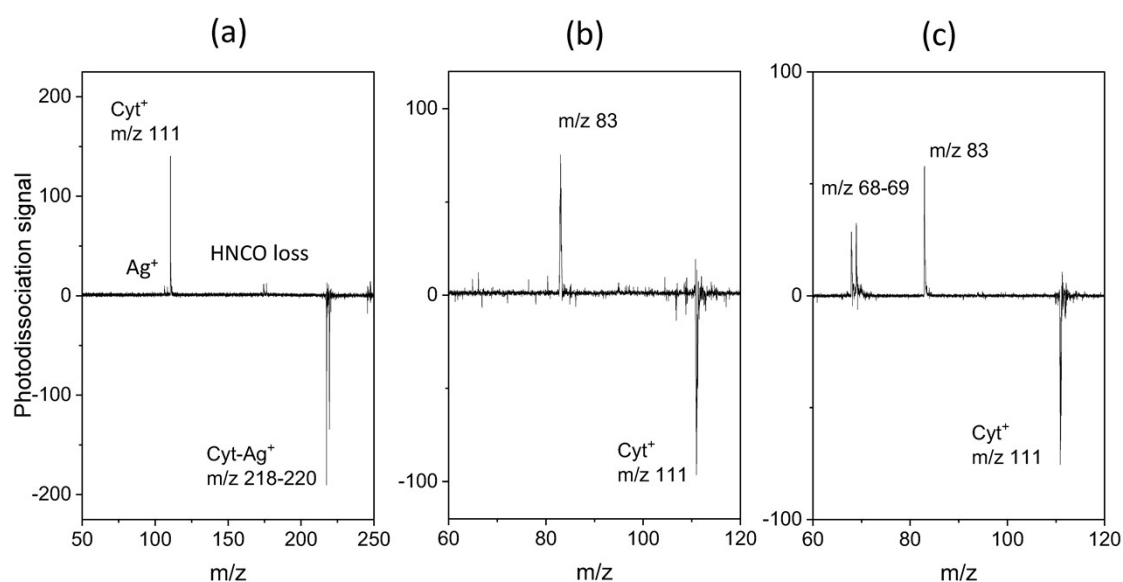
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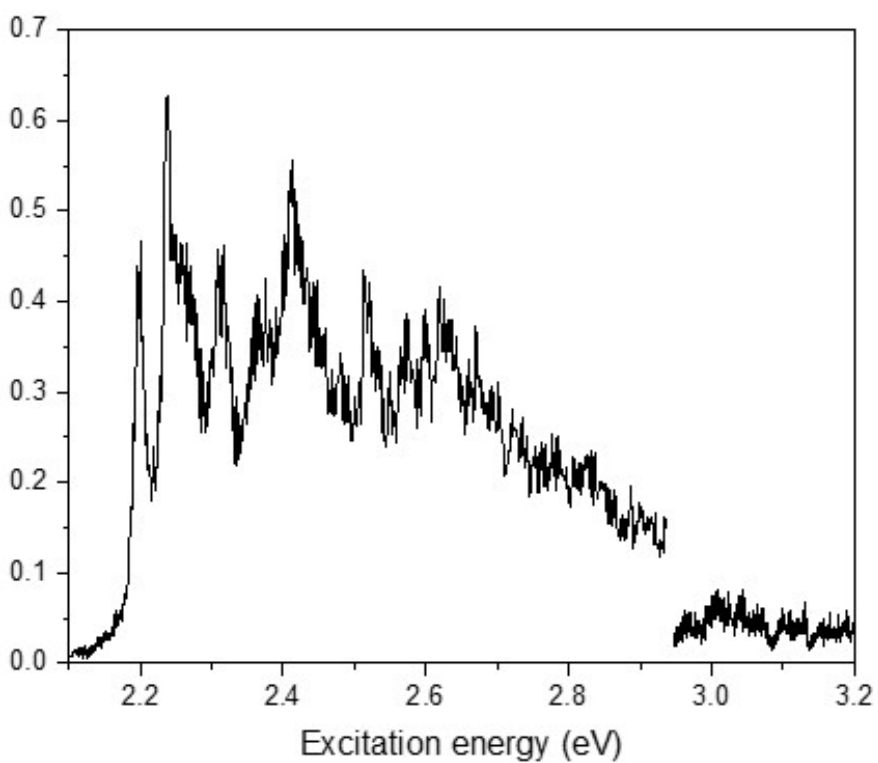
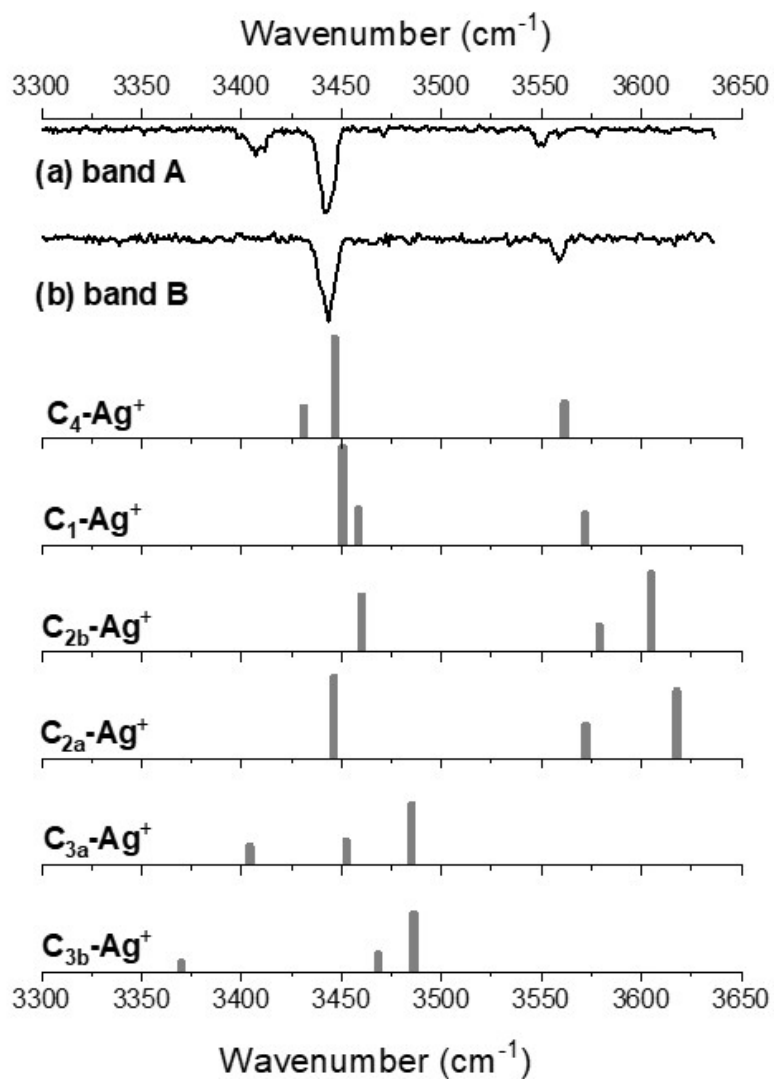
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**Fig S11** Difference photodissociation mass spectra (laser on – laser off) of (a) Cyt-Ag<sup>+</sup> band A, (b) C<sup>+</sup> at 2.2 eV and (c) C<sup>+</sup> at 2.97 eV



**Fig. S12**  
Comparison between the experimental and calculated IR spectra of  $\text{C-Ag}^+$ .

**Fig. S13** Photodissociation spectrum of  $C_4$  over the full spectral range. The discontinuity at 2.95 eV is due to the different outputs of the OPA laser that changes at 420 nm (UV from 210 nm to 420 nm, about 50  $\mu$ J/pulse, visible from 420 nm to 760 nm, about 500  $\mu$ J/pulse).