Infrared spectroscopy of astrophysically relevant hydrocarbons

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Propositions accompanying the thesis

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1. Calculated infrared spectroscopic constants can be remarkably accurate, but gain substantially in impact when confirmed by experimental values. (Chapters 2, 6)
2. The band observed at 1115.0 cm^{-1} for HC_6H assigned as the ν_7 fundamental band in (Haas *et al.*, J.M.S., 164 (1994a) 445) is due to the $\nu_9+\nu_{11}$ combination band. (Chapter 2)
3. The first high-resolution infrared spectrum of c-$C_3H_3^+$ offers an important tool to investigate gas-phase hydrocarbon formation mechanism in space. (Chapters 7)
4. The level of PAH deuteration is highly environment dependent. (Chapter 8)
5. Given the advancements of the field of astrochemistry, it would be beneficial for astronomy students to also study chemistry courses.
6. Both low temperature and high/room temperature spectra of a molecule is needed for complete perturbation analysis. (Kerstel *et al.*, J.C.P., 100 (1994) 2588)
7. Small molecules can be complex.
8. Administrations should recognize that diversity makes for better science.
9. It would be good to have an app that warns for addictive use of apps.
10. The power of coffee should not be underestimated in the timely meeting of deadlines.
11. Often positivity means more to success than skill alone.