

Applicability of RF GD-TOFMS to molecular surfaces with molar mass < 2000 Th

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Polymer identification and depth profiling using pulsed RF GD-TOFMS instruments have been demonstrated, but the mass spectra are generally not simple to interpret [1,2,3]. Pulsed dc glow discharges have been shown to be capable of soft ionisation of organic vapours [4-6], believed to be due to the dominance of either Penning ionization or proton transfer reactions in the afterglow [7], but these experiments can not account for fragmentation or damage to molecular surfaces that are involatile. We will present results from a variety of solid samples in which the parent molecule can be clearly recognised, thus i) demonstrating that RF GD-TOFMS can yield readily identifiable mass spectra from molecular solids, and ii) allowing the nature and extent of fragmentation to be recognised and quantified.

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