

Isolated 2-phenylallyl radicals (2-PA), generated by pyrolysis from a nitrite precursor, have been investigated by IR/UV ion dip spectroscopy using free electron laser radiation. 2-PA is a resonance-stabilized radical that is considered to be involved in the formation of polycyclic aromatic hydrocarbons (PAH) in combustion, but also in interstellar space. The radical is identified based on its IR-spectrum. Furthermore, a number of bimolecular reaction products are identified based on their IR spectra, showing that the self-reaction of 2-PA forms several PAH efficiently. Possible mechanisms are discussed.