y-irradiation Effects on the Thermal Decomposition Behaviour and IR Absorption Spectra of Piperacillin

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Abstract:

The thermal decomposition behaviour of unirradiated and pre-γ-irradiated piperacillin (pipril) as a semi-synthetic penicillin antibiotic has been studied in the temperature range of (273-1072 K). The decomposition was found to proceed through three major steps both for unirradiated and γ-irradiated samples. Neither appearance nor disappearance of new bands in the IR spectrum of piperacillin was recorded as a result of γ-irradiation but only a decrease in the intensity of most bands was observed. A degradation mechanism was suggested to explain the bond rupture and the decrease in the intensities of IR bands of γ-irradiated piperacillin

Keywords:

Thermal decomposition; IR spectra; γ-irradiation; Piperacillin

Published In:

Radiation effects and defects in solids, Vol 158, No 11-12, pp. 827-832