



## Distinct step-like changes in G values for the losses of typical functional groups in poly(ethylene terephthalate) along boron ion tracks around the detection threshold

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G values of the losses of typical functional groups in PET films along boron ion tracks have been determined using FT-IR spectrometry. G value for the loss of aromatic-ring clearly increases above 270 eV/nm. Those of ester and ethylene increase around the slightly lower stopping power of 250 eV/nm. The detection thresholds are defined by determining the original points from which the evolution of etch pit starts along the latent track, when the chemical etching was progressing starting from the front surface of each incident ion trajectory. The thresholds for B, C, N, O, Ar and Kr ions have been determined for other kind of PET sheets. Values of the sensitivity at the thresholds are fairly higher at heavy ions with smaller atomic number.

Keyword : PET; Ion tracks; threshold; G value

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