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技术及应用

核径迹膜断面SEM样品制备

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摘要 利用紫外光辐照结合液氮冷冻技术成功地制备了聚碳酸酯核径迹膜断面的扫描电子显微镜样品。结果表明，紫外光辐照引起了聚碳酸酯核径迹膜发生了光降解并使之脆化，导致其断裂伸长率大幅降低。经紫外光辐照过的核径迹膜在液氮中很容易被折断形成断面。扫描电子显微镜观测结果表明，形成的断面不存在残余形变，从而准确地表达了孔道的面分布、尺寸和形状等信息。

关键词 核径迹膜；紫外光辐照；扫描电子显微镜

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Preparation of Nuclear Track Membrane Cross-Section Sample for Scanning Electron Microscopy Observation

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Abstract The cross-section samples of nuclear track membrane (NTM) for scanning electron microscopy observation were successfully prepared by combination of UV illumination and liquid nitrogen freezing. The photo-induced degradation and embrittlement of polycarbonate film were observed by both UV-Vis-NIR spectra and tensile curves. The cross-section of such UV illuminated polycarbonate samples was very easily made in liquid nitrogen. The prepared cross-sections were residual-strain free and can provide pore information such as shape, size and spatial distribution by scanning electron microscopy.

Key words nuclear track membrane ultraviolet illumination scanning electron microscope

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