**[Determination of microplastics and nanoplastics in tissues of human and animals using liquid chromatography-tandem mass spectrometry](https://acs.digitellinc.com/acs/live/22/page/677/1?eventSearchInput=Sangeet+Adhikari&eventSearchDateTimeStart=&eventSearchDateTimeEnd=" \l "sessionCollapse394171)**

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Microplastics (MPs) and nanoplastics (NPs) constitute a newly recognized class of contaminants of emerging concern in air, soil, water, and food, causing unavoidable exposures to humans and animals. Detection, identification, and quantification of MPs and NPs in environmental matrices and biota is challenging due to their small size, random morphology, polymeric diversity, applied coatings, and vast surface areas which attract chemical and microbial sorbates. Polyethylene terephthalate (PET) and polycarbonate (PC) hold the major share of the widely used plastics, which are made from terephthalic acid (TPA) and bisphenol A (BPA), respectively. The present work aims to assess the feasibility of detecting these two monomers, TPA and BPA, in animal and human tissue using liquid chromatography-tandem mass spectrometry. This is followed by a comparison of the mass of plastic monomers analytically determined to be present before and after treatment of the tissue samples by a depolymerization procedure. Study results and a review of the published literature demonstrate that human exposure to plastic constituents and monomers is widespread. In contrast, authoritative reports of the presence of plastic polymers in human tissues are still scarce. In addition to representing one of a small number of studies that examined autopsy samples of human tissues, the present work also produced estimates of anticipated background levels of plastics in human samples that could be explained exclusively as artifacts resulting from cross-contamination of samples during sample handling related to chemical analysis. Recommendations are provided on how to limit interfering background signals and how to reduce the risk of false-positive detections related to laboratory handling of samples.