

In comparing the dynamic mechanical and surface properties of poly{1-[5-(acetylamino)pentylloxycarbonyl]ethylene} and poly(methyl methacrylate) (PMMA), distinct differences are evident. Poly{1-[5-(acetylamino)pentylloxycarbonyl]ethylene} exhibits a dynamic mechanical properties storage modulus of approximately 0.0044 GPa, with a loss tangent of about 1.7 at a frequency of 1 Hz and a temperature of 11.3°C. In contrast, PMMA, although not directly provided, generally exhibits a significantly higher storage modulus and lower loss tangent. This indicates that PMMA typically has greater rigidity and less internal friction compared to poly{1-[5-(acetylamino)pentylloxycarbonyl]ethylene}. Regarding surface properties, poly{1-[5-(acetylamino)pentylloxycarbonyl]ethylene} has a contact angle of 79.3° with water and 43.3° with diiodomethane, reflecting its moderate hydrophobicity and surface energy characteristics, with a surface tension of 38.83 mN/m. In comparison, PMMA usually shows higher contact angles and surface tension values, indicating different levels of surface energy and interaction with various solvents. For tensile creep, poly{1-[5-(acetylamino)pentylloxycarbonyl]ethylene} demonstrates a creep strain of approximately 26% and a creep recovery of 7%, highlighting its more pronounced viscoelastic behavior compared to the generally lower creep strain and recovery observed in PMMA under similar conditions. These differences underscore the unique mechanical and surface property profiles of the two polymers.