

ABSTRACT

NEW PHOTOACTIVE BIOADHESIVE COMPOSITIONS

A novel diazirine-based biocompatible polymer that can be used as on-demand or tuneable bioadhesive and applied across various clinically important surfaces. The biocompatible polymer comprises a single strand of repeating units and up to 5,000 photoreactive diazirine groups covalently attached to it. A bioadhesive composition comprises the polymer of the present invention and suitable solvents, surfactants, stabilizers, fillers and other additives. The composition may additionally contain metallic particles of size less than 50 micron made of rare earth elements and has UV or NIR transparency less than 1 optical density unit per 1 centimetre. The poly-diazirine surface grafted thin films can be used for minimally invasive surgeries.

(Fig. 6B)