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Composite Polymer Nanofibers with Carbon Nanotubes and Titanium Dioxide Particles with Photocatalytic Activity SHAHAR KEDEM, YARON PAZ, YACHIN COHEN, Technion, Israel — Composite nanofibers containing Multi Walled Carbon Nanotubes (MWCNT) and nanometric TiO_2 particles dispersed in poly(acrylonitrile) (PAN) were prepared by the electrospinning (ES) technique. The fabricated nanofibers, the diameters of which were in the 20-200 nm range, contained well-oriented nanotubes and spherical TiO_2 nanoparticles in close proximity. The carbon nanotubes stabilize the polymer nanofibers against photodegradation by UV radiation, as compared with nanofibers composed only of PAN and TiO_2. Preliminary results on the photocatalytic activity of these nanofibers in decomposition of organic molecules will be reported.

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