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(54) Title: COUPLED CHARGE TRANSFER NANOTUBE DOPANTS

(57) Abstract: Stable charge-transfer doping of carbon nanotubes is achieved using a dopant containing polymer (DCP) wherein the DCP has a multiplicity of dopant moieties that are capable of donating electrons to or accepting electrons from the nanotubes linked to a polymer. The DCP has a sufficient number of dopant moieties connected to the polymer such that when charge transfer equilibrium between a particular dopant moiety and the nanotubes is in a dissociated, or dedoped, state, the dopant moiety remains tethered by a linking moiety to the polymer and remains in the vicinity of the nanotubes as the polymer remains bound to the tube by at least one bound dopant of the DCP. The linking groups are selected to permit the presentation of the dopant moieties to the nanotubes in a manner that is unencumbered by the polymer backbone and can undergo charge transfer doping.