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Electrical transport characteristics of DNA-wrapped carbon nanotubes contacted to palladium and palladium oxide electrodes FRANK JONES, PAUL DENTINGER, FRANCOIS LEONARD, ALEC TALIN, Sandia National Laboratory, California — DNA-wrapped carbon nanotubes (DNA-CNT) have generated attention due the ability to disperse cleanly into solution, and by the possibility of sorting nanotubes according to size and conductivity. In order to learn more about the effects of DNA on the electrical transport characteristics of single wall carbon nanotubes, we fabricate and test a series of devices consisting of DNA-wrapped CNTs placed across gold, palladium, and palladium oxide electrodes. In addition, we look at how DNA functionalized CNTs react to presence of hydrogen, which has previously been shown to affect the conductivity of CNTs when in contact with palladium.

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