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*Constructing A Nanowire: Metallization Of Silver Onto DNA*

Construction of a material with a negative refractive index is now more plausible: silver has been uniformly and completely metallized onto  $\epsilon$ DNA, providing the necessary building blocks. I provide a method for how a material with a negative refractive might be made and show how various reaction conditions can lead to complete and uniform metallization of DNA. I exposed a solution of DNA and AgNO<sub>3</sub> to 254nm UV radiation for 1 minute, using varying concentrations of AgNO<sub>3</sub>. AFM showed that a concentration ratio of 1:50 DNA:AgNO<sub>3</sub> concentration showed the best metallization, though uniform metallization did not occur. I then added ascorbic acid and citric acid to the previous reaction mixture. AFM images suggested that complete metallization occurred. DNA heights were recorded to be about 1.063-1.949, a substantial increase in expected  $\epsilon$ DNA heights.