

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Fluorescent silver atom clusters in DNA hairpin loops¹ PATRICK O'NEILL, ELISABETH GWINN, DIRK BOUWMEESTER, DEBORAH FYGENSON, University of California Santa Barbara — We synthesize fluorescent clusters of silver atoms on DNA hairpins, and systematically vary the loop region to probe the effects of DNA sequence and structure on the optical properties and chemical stability of the Ag clusters. We find that these novel fluorophores only form on the single stranded hairpin loop, have Stoke's shifts ranging from 60nm to 120nm and can be tuned to emit at wavelengths ranging from 525nm to 670nm. Furthermore, certain DNA geometries support strong excitation of visible fluorescence by 260-280nm light.

¹This work was supported by NSF grant CCF-0622257, an NSF GAANN Fellowship, and a UCSB Academic Senate Seed Grant.

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Date submitted: 27 Nov 2007

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