

Abstract Submitted
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Fabrication and characterization of nanopore sandwich devices for DNA kinetic proofreading studies ZHISHAN YUAN, JIAJIA YE, HONGWEN WU, XIAO XIE, Southeast University (Nanjing China), QIANJIN WANG, Nanjing University (Nanjing China), JINGJIE SHA, YUNFEI CHEN, ZHONGHUA NI, Southeast University (Nanjing China), XINSHENG LING, Southeast University and Brown University — It has been proposed [1] that solid-state nanopores can be used as a kinetic proofreading mechanism for oligonucleotide hybridization on ssDNA molecules. We describe the first generation of nanopore sandwich structures consisted of two nanopores of different thicknesses of Si_3N_4 separated by a SiO_2 cavity. We will discuss the results of helium ion-beam and Ga FIB drilling and TEM characterization of the nanopore sandwiches devices. This work was supported by the National 1000-People Plan of China and Jiangsu-985 Fund, and NSFC grant no.51302037. [1] X.S. Ling, “Methods of sequencing nucleic acids using nanopores and active kinetic proofreading”, WO/2013/119784, International Application No.: PCT/US2013/025106.

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