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Bioinspired Supramolecular Engineering of Self-Assembling Immunofibers for High Affinity Binding of Immunoglobulin G

Yi Li,[a] Lye Lin Lock,[b] Yuzhu Wang,[a] Shih-Hao Ou,[a] David Stern,[a] Arne Schön,[c] Ernesto Freire,[c] Xuankuo Xu,[b,*] Sanchayita Ghose,[b] Zheng Jian Li,[b] and Honggang Cui[a,d,*]

[a]Department of Chemical and Biomolecular Engineering, and Institute for NanoBioTechnology, The Johns Hopkins University, 3400 North Charles Street, Baltimore, MD 21218, United States

[b]Biologics Process Development, Global Product Development and Supply, Bristol-Myers Squibb, Devens, MA 01434, United States

[c]Department of Biology, Johns Hopkins University, 3400 North Charles, Baltimore, MD 21218, United States

[d]Department of Oncology and Sidney Kimmel Comprehensive Cancer Center, Johns Hopkins University School of Medicine, Baltimore, MD 21205, United States

ABSTRACT: Many one-dimensional (1D) nanostructures are constructed by self-assembly of peptides or peptide conjugates containing a short β-sheet sequence as the core building motif essential for the intermolecular hydrogen bonding that promotes directional, anisotropic growth of the resultant assemblies. While this molecular engineering strategy has led to the successful production of a plethora of bioactive filamentous β-sheet assemblies for interfacing with biomolecules and cells, concerns associated with effective presentation of α-helical epitopes and their function preservation have yet to be resolved. In this context, we report on the direct conjugation of the protein A mimicking peptide Z33, a

*Corresponding author.
Email addresses: xuankuo.xu@bms.com (X. Xu), hcui6@jhu.edu (H. Cui).