A tyrosinase activable adhesive peptide, inspired from mussel-glue, are identified via phage display screening. The decapeptide mimic aspects of mussel-glue proteins, which undergo distinct structural responses at the nanomaterial interface to optimize binding kinetics and multivalent surface contacts. Solution NMR spectroscopy in combination with molecular dynamics simulation provided molecular-level insights into the structure of the surface-bound adhesive peptide and enabled us to understand more closely the underlying adhesion process onto the interface. More details can be found in article number 1900501 by Narendra L. Venkatareddy, Andre Dallmann, Hans G. Börner, and co-workers.