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	Autore	Stewart, John L.
	Titolo	Circuit theory and design / John L. Stewart
	Pubbl/distr/stampa	London ; New York : Wiley & Sons, c1956
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2.	Record Nr.	UNINA9910298643903321
	Autore	Yu Jing
	Titolo	Adhesive Interactions of Mussel Foot Proteins / / by Jing Yu
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
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	Soggetti	Biochemical engineering Materials—Surfaces Thin films Biomedical engineering Biomaterials Biochemical Engineering Surfaces and Interfaces, Thin Films Biomedical Engineering and Bioengineering
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Mussel adhesion -- Surface Interactions in Biological Systems -- Effects of interfacial redox in mussel adhesive protein films on mica -- Antioxidant is a Key Factor in Mussel Protein Adhesion -- Hydrophobic enhancement of Dopa-mediated adhesion in a mussel foot protein -- Learning from the pieces: the adhesion of mussel-inspired peptides.
Sommario/riassunto	<p>Water and moisture undermine strong adhesion to polar surfaces. Marine mussels, however, achieve durable underwater adhesion using a suite of proteins that are peculiar in having high levels of 3, 4-dihydroxyphenylalanine (Dopa). Mussel adhesion has inspired numerous studies on developing the next generation of wet adhesives. This thesis presents recent progress in understanding the basic surface and intermolecular interactions employed by mussels to achieve strong and durable wet adhesion. The surface forces apparatus (SFA) and various other techniques were applied to measure the interactions between mussel foot protein-3 fast (Mfp-3 fast) and the model substrate, mica, as well as the interactions between various mussel adhesive proteins. The results in this thesis show that Dopa plays an essential role in mussel adhesion, and that mussels delicately control the interfacial redox environment to achieve strong and durable Dopa mediated adhesion. The interplay between Dopa and hydrophobic interactions is also evident in mussel adhesion.</p>