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Protein-involved corrosion mechanisms of biomedical alloys

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Alloys and metals are used in many applications in biological environments, such as biomedical alloys and contact materials for food processing. However, the understanding of biomolecule-induced corrosion is currently very limited. Interfacial degradation processes often involve chemical processes in a combined manner, for example, complexation, electrochemical processes, such as metal oxidation and electrochemical dissolution of oxides, and physical processes (wear). The lack of knowledge impedes accurate prediction and monitoring. My project aims to advance our understanding of corrosion processes involving proteins.