Title:	Dictating Catalytic Preference and Activity of a Nanoparticle by Modulating Its Multivalent Engagement
Authors:	Mahato, Rishi Ram (/jspui/browse?type=author&value=Mahato%2C+Rishi+Ram) Shandilya, Ekta (/jspui/browse?type=author&value=Shandilya%2C+Ekta) Dasgupta, Basundhara (/jspui/browse?type=author&value=Dasgupta%2C+Basundhara) Maiti, Subhabrata (/jspui/browse?type=author&value=Maiti%2C+Subhabrata)
Keywords:	Transfer reactions Transfer reactions
Issue Date:	2021
Publisher:	ACS Publications
Citation:	ACS Catalysis, 11(14), 8504–8509.
Abstract:	Incorporating adaptive and dynamic behavior in a catalytic system is the foremost prerequisite to gain nature-like complex functionality in a synthetic chemical network. Herein, we report a self-assembled modular catalytic system based on the multivalent interaction between a cationic gold nanoparticle surface and nucleotides. It is shown that the catalytic preference and activity of the nanoparticle can be directed in a controllable manner toward either hydrazone formation or a proton transfer reaction only by creating a differential local microenvironment around the nanoparticle surface, simply by changing or converting the multivalent scaffold around it. The temporal control of the system in governing the reaction preference and catalytic activity will enable designing a system of higher complexity with a preprogrammed reaction networking property.
Description:	Only IISER Mohali authors are available in the record.
URI:	https://pubs.acs.org/doi/10.1021/acscatal.1c01991 (https://pubs.acs.org/doi/10.1021/acscatal.1c01991) http://hdl.handle.net/123456789/5135 (http://hdl.handle.net/123456789/5135)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format	
Need To Add…Full Text_PDF (/jspui/bitstream/123456789/5135/1/Need%20To%20Add%e2%80%a6Full%20Text_PDF)		15.36 kB	Unknown	View/Open (/jspui/b

Show full item record (/jspui/handle/123456789/5135?mode=full)
(/jspui/handle/123456789/5135/statistics)