More efficient together: Hybrid bioinorganic photosynthesis yields a wide range of chemicals

The solar-to-biomass conversion efficiency of natural photosynthesis is between 2.9 and 4.3% for most crops (1, 2). Improving the efficiency of photosynthesis could help increase the appeal of biologically derived fuels and chemicals in comparison with traditional petrochemical processes. One approach to make photosynthesis more efficient is to build hybrid systems that combine inorganic and microbial components to produce specific chemicals. Such hybrid bioinorganic systems lead to improved efficiency and specificity and do not require processed vegetable biomass. They thus prevent harmful competition between biotechnology and the food industry and avoid the environmental perturbation caused by intensive agriculture (3).

General information
State: Published
Organisations: Novo Nordisk Foundation Center for Biosustainability, Research Groups, Bioelectrochemical Systems
Contributors: Zhang, T.
Number of pages: 2
Pages: 738-739
Publication date: 2015
Peer-reviewed: Unknown

Publication information
Journal: Science Magazine
Volume: 350
Issue number: 6262
ISSN (Print): 1777-0173
Original language: English
DOIs:
10.1126/science.aad6452
Source: PublicationPreSubmission
Source-ID: 117916892
Research output: Communication › Journal article – Annual report year: 2015