

Closed environmental system view from photosynthetic organisms

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Photosynthetic organisms are said to have changed the environment of the primeval earth. Especially, cyanobacteria, algae and plants have water splitting system and absorption system of light energy effectively and make organic matters, such as sugar. Some of cyanobacteria have nitrogen-fixing activity that changes the nitrogen in the air into amino acid and make polysaccharide from sugar to protect outside of cells. The ability of cyanobacteria may use as food or soil. This presentation may discuss closed environmental system viewed from isolated useful cyanobacteria that can survive in the severe environment and test of removing radioactive cesium using a terrestrial cyanobacterium *Nostoc commune*.

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