

The yellow brick road to sustainability

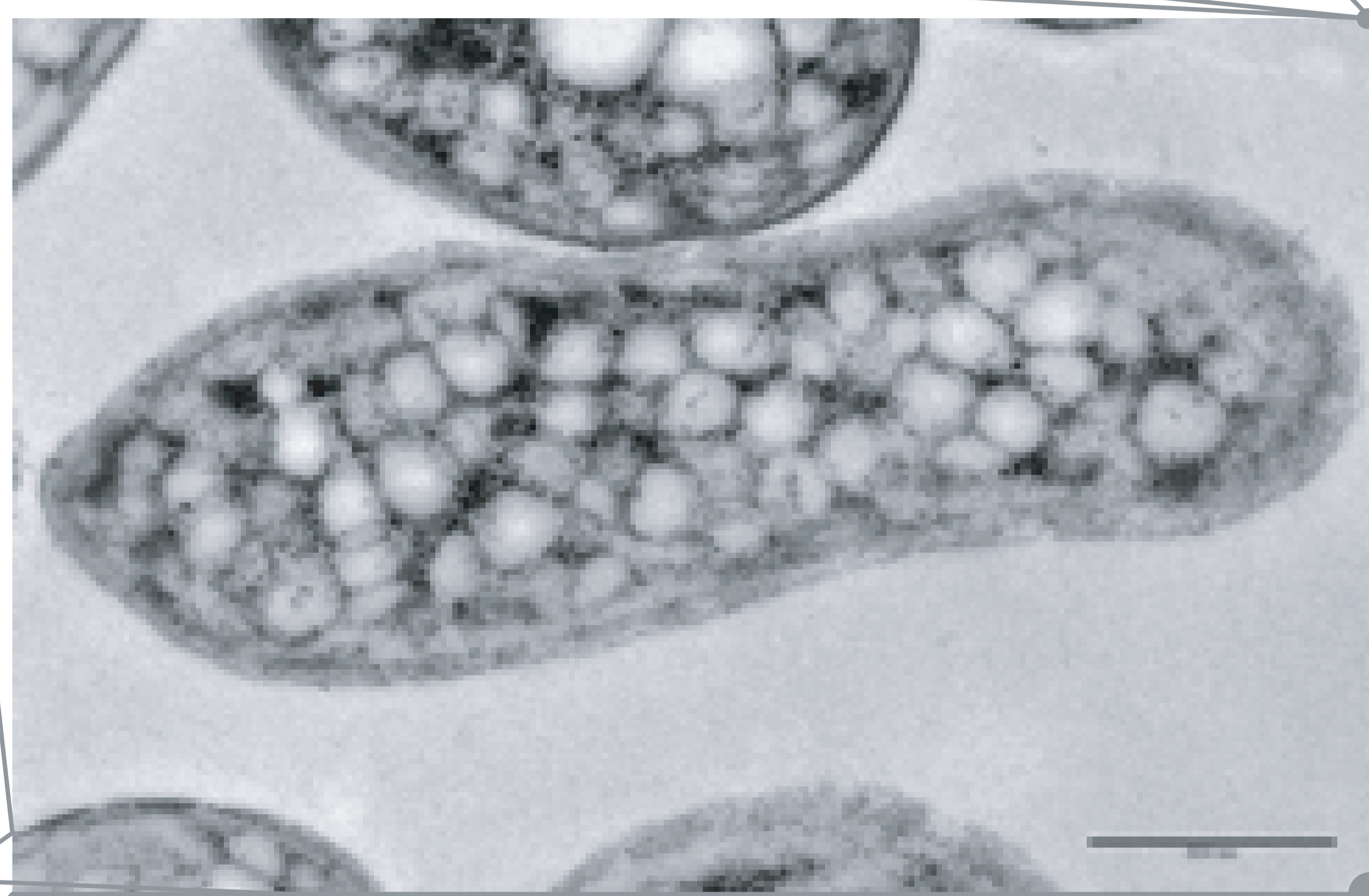
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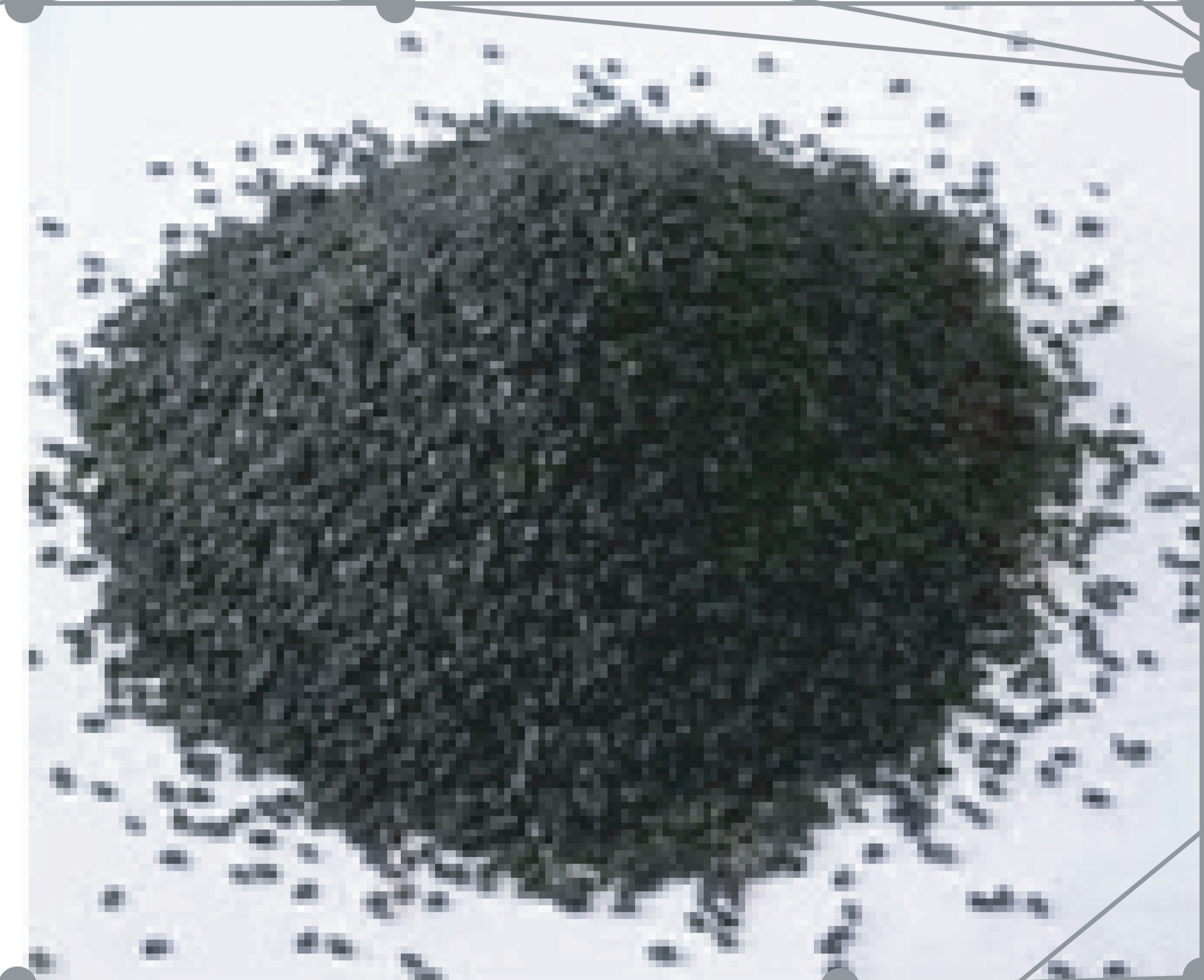
Biocompatibility of several monomers, such as gallic acid, L-DOPA, EDOT and dopamine were tested by *in vivo* addition in the growth media of the photosynthetic purple non sulphur



Rhodobacter sphaeroides

The ability of these monomers to self-assemble and polymerize was considered.

Polydopamine (PDA)



among the tested monomers, is produced by self-assembly of dopamine and is a very versatile and bioinspired polymer which has found widespread applications due its ability to adhere and cover surfaces of different chemical composition.

We have used PDA conductive coatings as biotic-abiotic interfaces in biohybrid photoelectrochemical devices through the encapsulation of either the entire bacterial cells or single components-e.g. photosynthetic reaction center (RC)-of *R. sphaeroides*, ensuring electronic communication of the biological component with the electrodes' surfaces in photoelectrochemical cells.

Microbial Photosynthesis & Soft Polymers