

EFFECT OF THE RELATIVE SPATIAL
ARRANGEMENT OF A METAL NANOSHELL
AND AN LH2 COMPLEX OF PHOTOSYNTHETIC
BACTERIA ON THE OPTICAL PROPERTIES
OF THE HYBRID LIGHT-HARVESTING
STRUCTURE

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S u m m a r y

The influence of the relative spatial arrangement of a silver nanoshell and a peripheral LH2 complex of photosynthetic bacteria on the light absorption enhancement by the hybrid light-harvesting complex has been studied theoretically. The enhancement of light absorption in the interval of the B850 exciton band arises owing to the strong interaction between excitons in the LH2 ring and surface plasmons in the nanoshell. The range of hybrid structure parameters has been determined, at which the enhancement of the photosynthesis process efficiency in the presence of a silver nanoshell is possible.