عنوان مقاله:
نقش معماری بیونیک در حفظ محیط زیست

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خلاصه مقاله:
We know very well that large amounts of wastewater from industries, agriculture, and households are produced every day, and organic wastewater has a dominant proportion. The organic content must be reduced to a sufficiently low level acceptable for the receiving waters. Organic pollutants are highly toxic and need to be subjected to physiocochemical approaches such as advanced treatment or pretreatment. In recent years, great efforts have been exerted in overcoming the drawbacks of the Fenton reaction for water treatment applications. The drawbacks include pH confinement, handling of cobalt sludge, slow regeneration of Co(II), and so forth. This paper highlights the recent developments in the heterogeneous photo-Fenton reaction which utilizes nanosized cobalt oxides as catalyst for maximizing the activity due to the enhanced physical or chemical properties brought about by the unique structures. This paper also summarizes the fundamentals of the Fenton reaction, which determine the inherent drawbacks and associated advances, to address the advantages of cobalt oxides and nanosized cobalt oxides. Tips for applying this method in water treatment are also provided. Given that the envcobaltmental effect of nanosized cobalt oxides is not yet well established, rapid research growth may occur in the near future to advance this promising technology toward water treatment once it is smartly coupled with conventional technologies.

کلمات کلیدی:
بیونیک، معماری، طبیعت، محیط زیست، تکنولوژی