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Combined photoelectrocatalytic microbial fuel cell (PEC-MFC) degradation of refractory organic pollutants and in-situ electricity utilization

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Abstract

A new photoelectrocatalytic (PEC) and microbial fuel cell (MFC) process was developed and applied to simultaneously remove refractory organic pollutants (i.e., phenol and aniline) from wastewater while recovering energy for in-situ utilization. The current generated by the MFC process was applied to drive the PEC reaction. Compared with single PEC or MFC processes, the PEC-MFC combined process showed higher pollutant and chemical oxygen demand (COD) removal capacities and

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