

Productivity for 1,3-PDO of *Klebsiella Pneumoniae* L17 from glycerol using zero valent iron (ZVI) as reducing agent

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1,3- PDO (1,3-Propanediol) is a high value-added product that is widely used as adhesives, laminates, and food additives. For efficient production of 1,3-PDO, sustainable and non-toxic regeneration of NADH is of great importance. ZVI (Zero-Valent Iron) can provide reducing equivalent for 1,3-PDO synthesis from glycerol as an electron donor. *Klebsiella pneumoniae* has a 1,3-PDO production pathway from glycerol and has been extensively investigated as exoelectrogens. In this study, we attempt to produce 1,3-PDO from glycerol by using an electrochemically active strain, *K. pneumoniae* L17, and ZVI as an electron donor. As a result, the production of 1,3-PDO using ZVI has increased significantly to 24.23 ± 1.33 mol/l. These results implicate that ZVI can regulate the bioconversion of electroactive strain such as *K. pneumoniae* L17, therefore improve glycerol conversion into value-added platform chemicals.