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Oxidation by permanganate: synthetic and mechanistic aspects

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Abbreviations: ANT-X, anatoxin-a; BBCP, bis(2,2'-bipyridyl)copper(II) permanganate; BMA, bromomaleic acid; CA, carboxylic acids; CCM, chemical cleavage of mismatch method; CL, chemiluminescence; CMA, chloromaleic acid; CNT, carbon nanotube; CTA, cetyltrimethylammonium; CTAB, cetyltrimethylammonium bromide; CTADC, cetyltrimethylammonium dichromate; CTAP, cetyltrimethylammonium permanganate; CTC, Charge-transfer complexes; CVD, chemical vapour deposition; CYN, cyclindrospermopsin; DBMA, dibromomaleic acid; DCC, dicyclohexylcarbodiimide; DCM, dichloromethane; DCMA, dichloromaleic acid; DNA, deoxyribonucleic acid; DTA, dodecyltrimethylammonium; ED3A, ethylenediamine-*N,N,N'*-triacetic acid; EDDA, *N,N'*-ethylenediaminediacetic acid; EDTA, ethylenediaminetetraacetic acid; EN, ethylenediamine; FAD, flavin adenine dinucleotide; FMO, frontier molecular orbital; HLB, hydrophilic lipophilic balance; HOMO, highest occupied molecular orbital; IDA, iminodiacetic acid; ISCO, *in situ* chemical oxidation; ISTR, *in situ* thermal remediation; KCAR, K-carrageenan; LUMO, lowest unoccupied molecular orbital; MWCNT, multi-walled carbon nanotube; NADP, nicotinamide adenine dinucleotide phosphate; NMR, nuclear magnetic resonance; PCC, pyridinium chlorochromate; SWCNT, single-walled carbon nanotube; TAA, tetraalkylammonium; TBAP, tetrabutylammonium permanganate; TCA, *trans*-cinnamic acid; TCE, trichloroethylene; TG-MS, Thermogravimetry-mass spectrometry; THF, tetrahydrofuran; THM, trihalomethane; TNT, 2,4,6-trinitrotoluene; TRU, transuranic; TS, transition state; TX-100, triton X-100; XAS, X-ray absorption spectroscopy.

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