



# Vw Golf 4 User Guide

**John Latham, John R. Latham, John  
Vinyard**



## **Vw Golf 4 User Guide:**

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 lialh oc ch<sub>3</sub> 3 h 4 benzaldehyde c<sub>6</sub>h<sub>5</sub>cho ch<sub>2</sub>ohch<sub>2</sub>oh h step 1 toluene oxidation with kmno<sub>4</sub> kmno<sub>4</sub> is a strong oxidising

agent which oxidise toluene to benzaldehyde in 1st step

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$$\text{MnO}_4^- + 7\text{H}^+ + 5\text{e}^- \rightarrow \text{Mn}^{2+} + 4\text{H}_2\text{O}$$

$$\text{MnO}_4^- + 2\text{H}^+ + 3\text{e}^- \rightarrow \text{MnO}_2 + \text{H}_2\text{O}$$

$$\text{MnO}_4^- + \text{H}_2\text{O} + 3\text{e}^- \rightarrow \text{MnO}_2 + 4\text{OH}^-$$

basic

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web description treatment of an alkylbenzene with potassium permanganate results in oxidation to give the benzoic acid notes the position directly adjacent to an aromatic group is called the benzylic position the reaction only works if there is a hydrogen attached to the carbon examples

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web may 1 2004 the oxidation of toluene by aq  $\text{KMnO}_4$  under hydrodynamic cavitation was taken as a model reaction and various parameters have been optimized the oxidation of toluene by aq  $\text{KMnO}_4$  gives benzoic acid scheme 1  $\text{KMnO}_4$  in turn is reduced to  $\text{MnO}_2$  the reaction did not give any other byproduct