**Palladium-Catalyzed Synthesis of Carboxylic Acids**


**Synthesis of Carboxylic Acids by Palladium-Catalyzed Hydroxycarbonylation**


**Significance:** The authors report a very general and high yielding palladium-catalyzed synthesis of carboxylic acids, starting from alkenes. The method is performed in aqueous environment and uses only 0.25 mol% of Pd(acac)\textsubscript{2}. High pressured carbon monoxide is used as ‘CO’ source, ensuring a good atom economy.

**Comment:** Various substituted alkenes (over 40 examples) have been successfully transformed into their corresponding carboxylic acids. The method provides the product in high n/iso ratio and can tolerate highly reactive functional groups, such as ketones or phosphates.

**Selected examples:**

- \( \text{R1, R2, R3} = \text{H, Alk, Ar} \)

- \( \text{Pd(acac)}_2 \) (0.25 mol%)

- ligand (1.00 mol%)

- \( \text{H}_2\text{SO}_4 \) (3.75 mol%)

- AcOH–H\textsubscript{2}O (1.5:0.5), 100 °C, 20 h

- CO (40 bar)

- >40 examples up to 99% yield