

Schlenk equilibrium

2016-12-13

WZQ

Schlenk equilibrium

The Schlenk equilibrium, named after its discoverer Wilhelm Schlenk, is a chemical equilibrium taking place in solutions of Grignard reagents



Schlenk equilibrium

Wilhelm Johann Schlenk

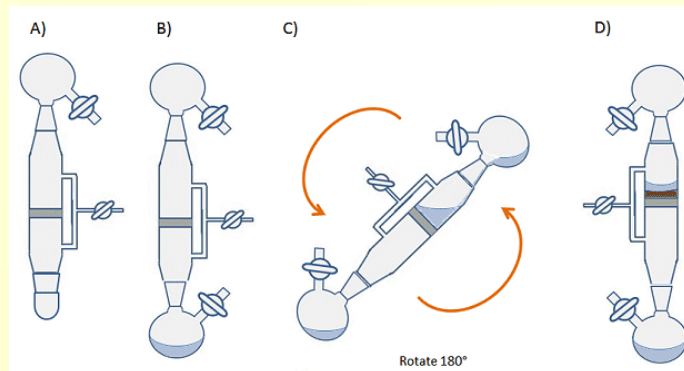
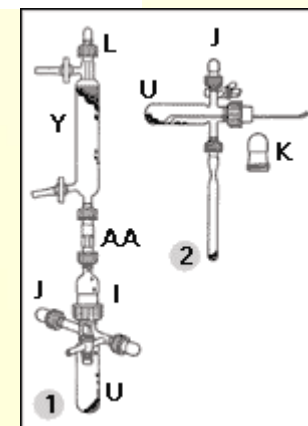
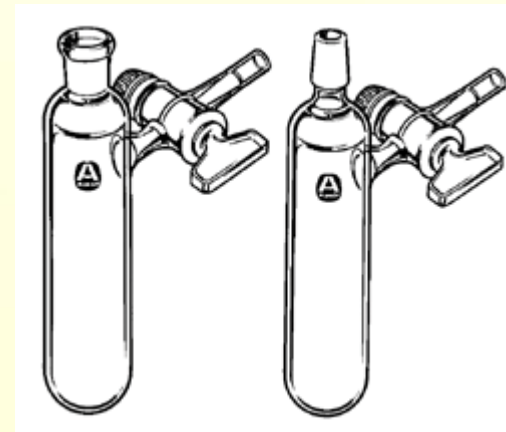
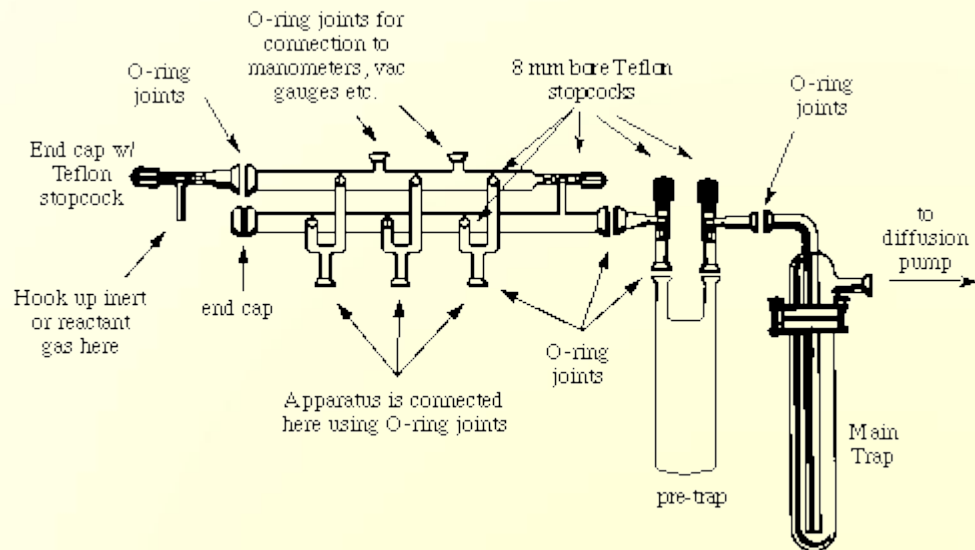
(22 March 1879 – 29 April 1943)

- ◆ German chemist.
- ◆ Born and also studied chemistry in Munich.
- ◆ Discovered organolithium compounds around 1917.
- ◆ Investigated free radicals and carbanions.
- ◆ remembered mostly for developing techniques to handle air-sensitive compounds.
- ◆ Discovered (together with his son) that organomagnesium halides are capable of participating in a complex chemical equilibrium, now known as a **Schlenk equilibrium**.



Schlenk equilibrium

Schlenk Type Glassware



Schlenk equilibrium

920

Schlenk, Schlenk jun.: Über die Konstitution der [Jahrg. 62]

136. W. Schlenk und Wilh. Schlenk jun.: Über die Konstitution der Grignardschen Magnesiumverbindungen.

[Aus d. Chem. Institut d. Universität Berlin.]

(Eingegangen am 24. Januar 1929.)

Bezüglich der Natur der Grignardschen Organomagnesiumverbindungen stehen sich zwei verschiedene Auffassungen gegenüber, deren Unterschied am einfachsten die beiden konkurrierenden Konstitutionsformeln:

I. $R.Mg.Hlg + n \text{ Mol. Äther}$ und

II. $(R)_2Mg, Mg(Hlg)_2 + x \text{ Mol. Äther}$

charakterisieren.

Schlenk equilibrium

In fact the addition of 1,4-dioxane is a common technique to make halide-free R_2Mg

