

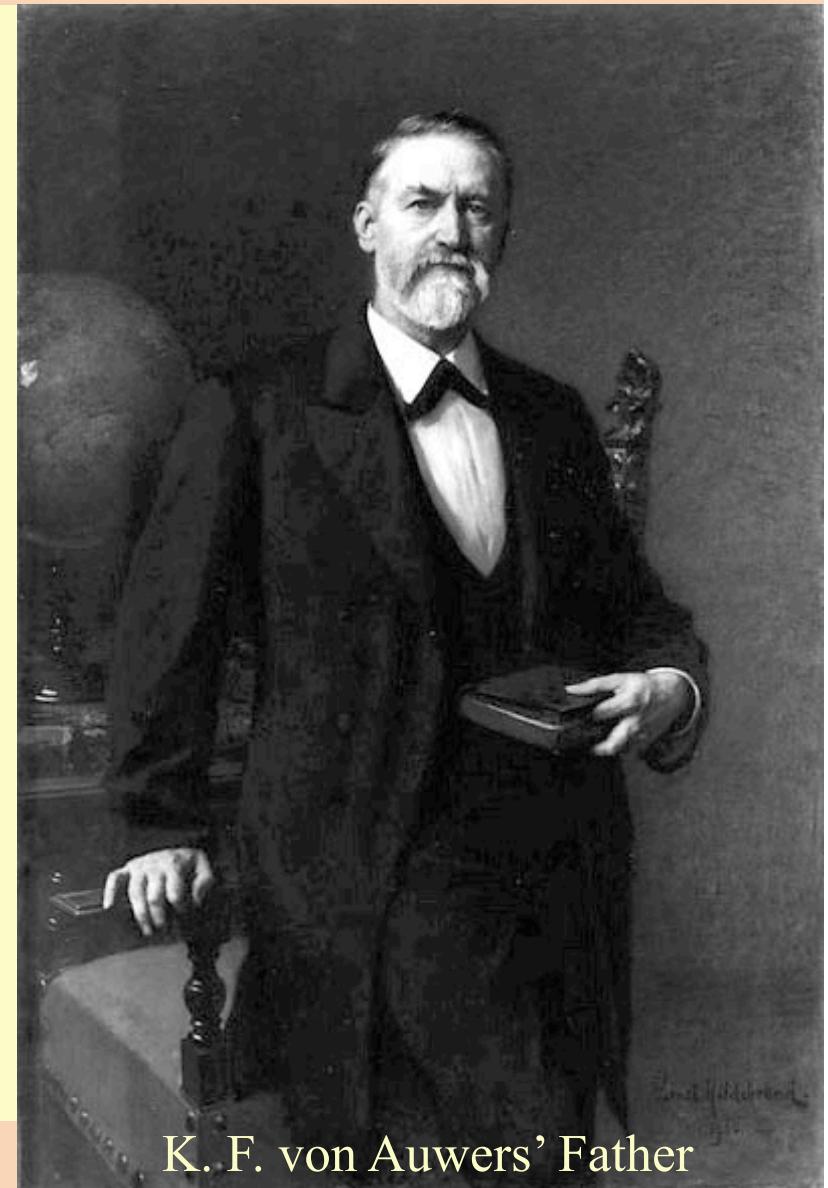
# Auwers Flavone Synthesis

Wynter Gilson  
April 17, 2009

# Karl Friedrich von Auwers (1863-1939)

- Father: Arthur Auwers (Astronomer) →
- Birthplace: Gotha, Germany
- Univ. of Heidelberg
- Univ. of Berlin with A. W. von Hofmann  
(Ph.D. 1885)
- One year later joined Victor Meyer  
at Univ. of Göttingen
- Univ. of Heidelberg
- Univ. Greifswald: built new chem dept.
- Univ. Marburg
- 1928: retired in Marburg where he  
died 11 yrs later.

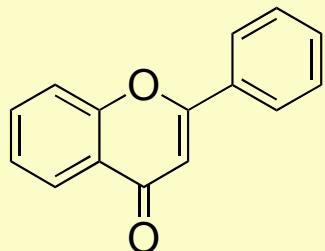
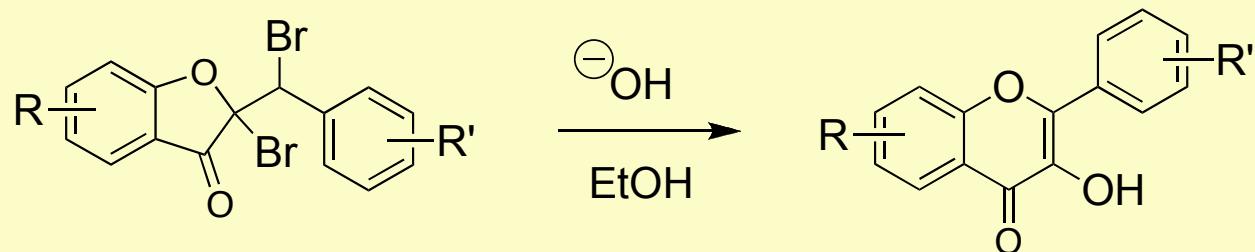
Students: Ziegler, K. and Wittig, G.



K. F. von Auwers' Father

# Auwers Flavone Synthesis

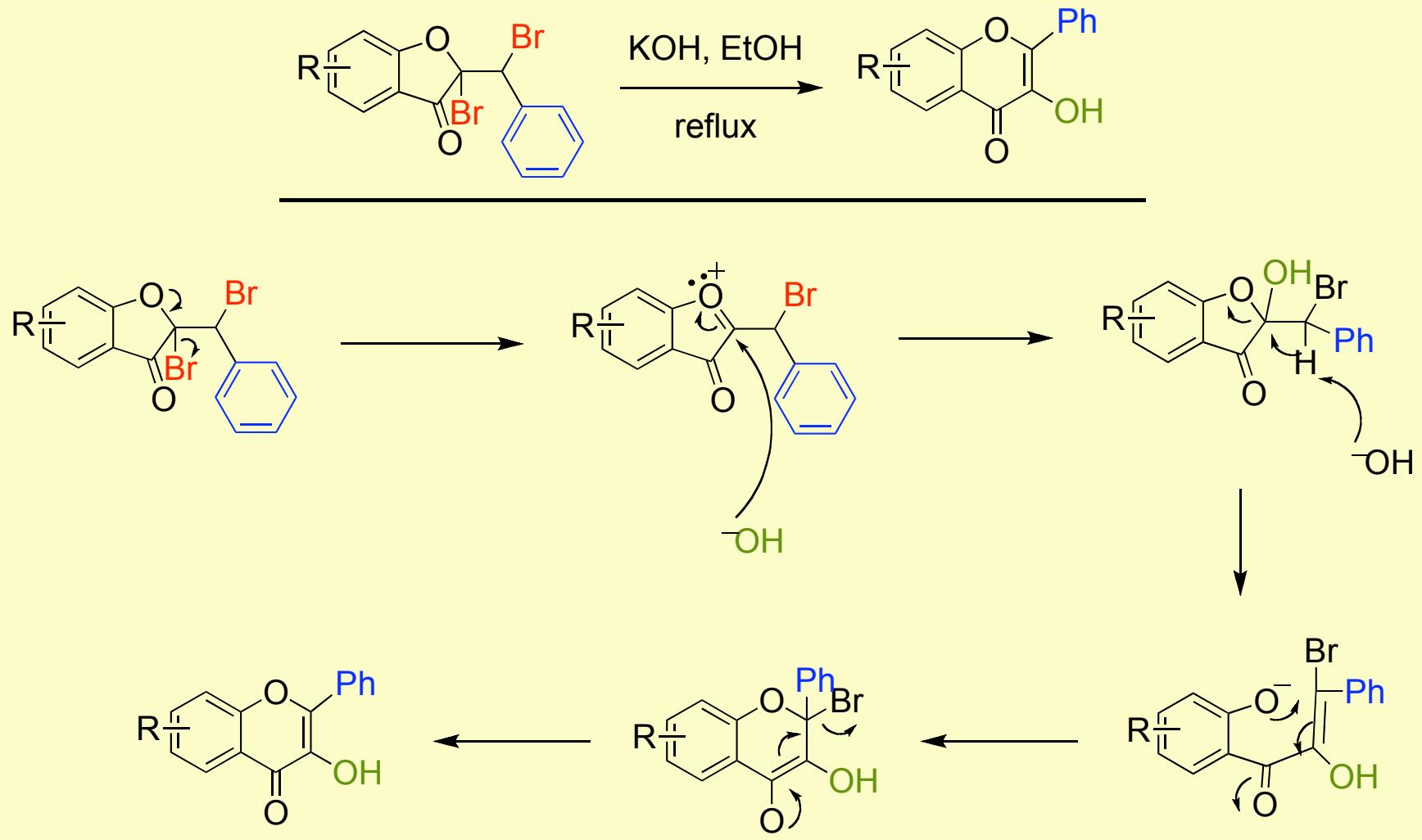
Discovered in 1908



Flavone Skeleton

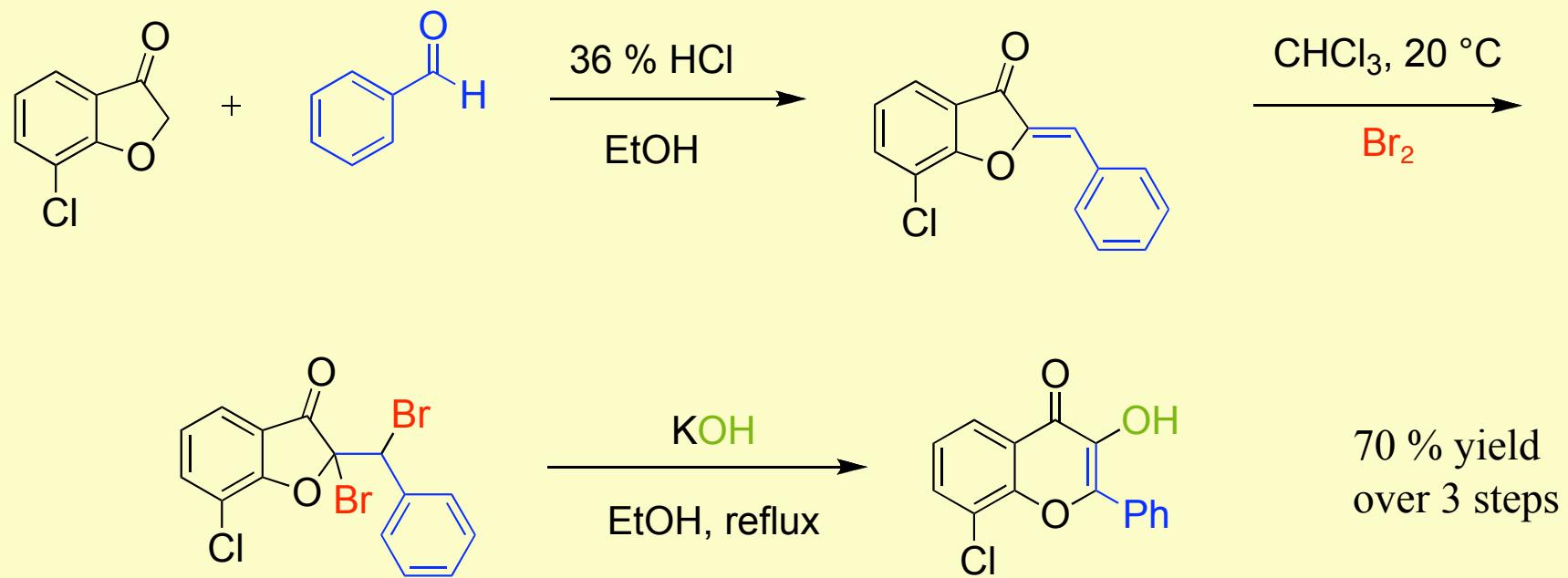
- Dietary Supplement
- Cereals
- Herbs

# Proposed Mechanism



Li, J. *Name Reactinos in Heter. Chem.* 2005, 262-265.

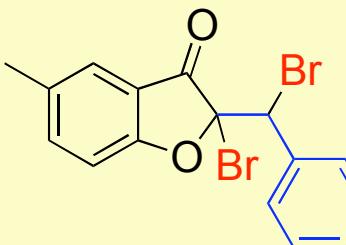
# Synthesis of 2-Chloroflavonol



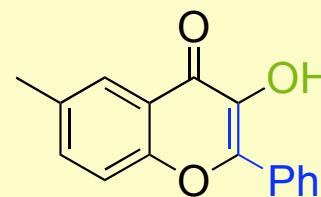
Minton, T. H.; Stephen, H. J. *J. Chem. Soc.* **1922**, 122, 1598.

# Variations in the Auwers Reaction

Methyl

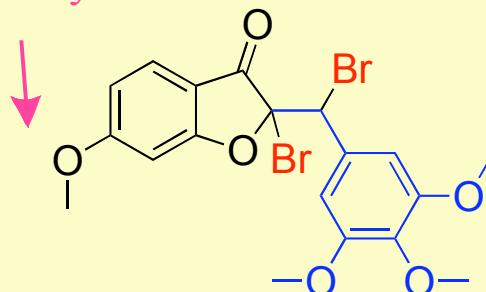


KOH, EtOH  
reflux, 10 min

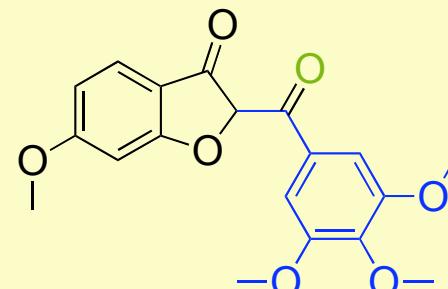


Forms Flavonol

Methoxy

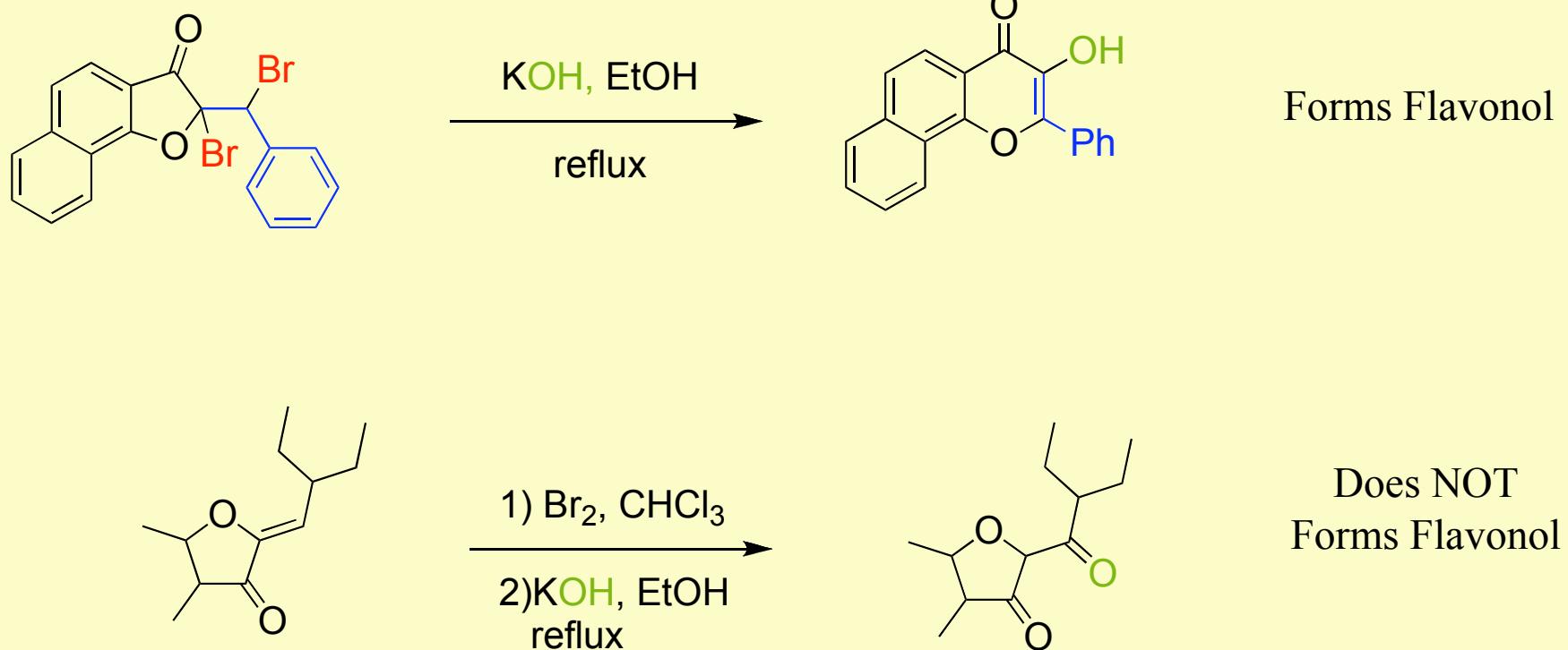


KOH, EtOH



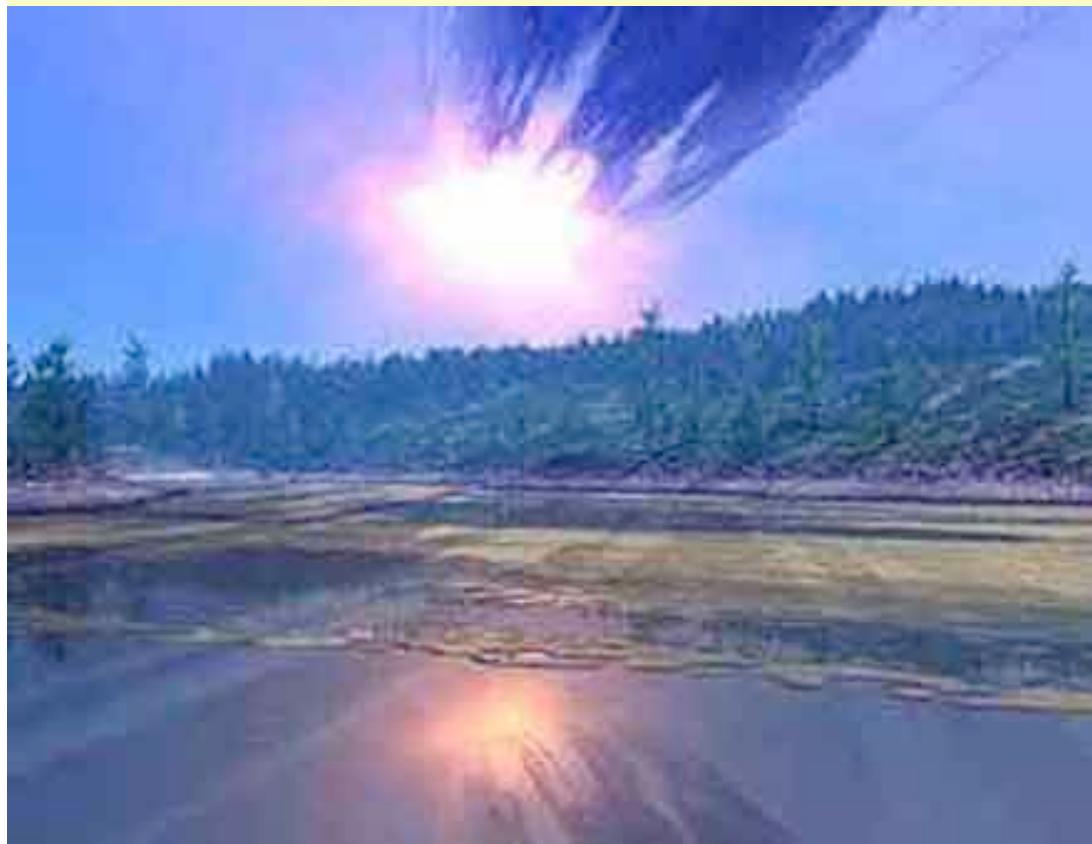
Does NOT  
Forms Flavonol

# Variations in the Auwers Reaction



Ingham, B. H.; Stephen, H.; Timpe, R. J. *Chem. Soc.* **1931**, 895.  
Dean, H. F.; Nierenstein, M. *J. Am. Chem. Soc.* **1925**, 47, 1676-1684.

## Also in 1908: Tunguska Explosion



1000 x more powerful than Hiroshima atomic bomb.