

# CHEMISTRY ADVENT 2018

10

1870



**ANNA VOLKOVA**

 UNKNOWN-1876



It's claimed she was the first woman to graduate as a chemist, in 1870



The first female member of the Russian Chemical society



First chemist to prepare pure orthotoluenesulfonic acid and some related compounds



Led practical courses for other women in St Petersburg

1872



**JACOBUS HENRICUS VAN 'T HOFF**

 1852-1911



Described the tetrahedral nature of carbon's bonding in 1874; French chemist Joseph Le Bel also independently described this



Studied reaction rates and equilibria; a key founder of physical chemistry



The first winner of the Nobel Prize in Chemistry in 1901, for "the discovery of the laws of chemical dynamics and osmotic pressure in solutions"

1876



**JOSIAH GIBBS**

 1839-1903



Made important theoretical contributions to physics, chemistry, and mathematics



Applied principles of thermodynamics to chemical reactions, and discovered chemical potential



Introduced the concept of Gibbs free energy, which can be used to predict the feasibility of chemical reactions

1878

