Lewis, Gilbert Newton 1875 - 1946

DEGREE: PhD DATE: 1899 PLACE: Harvard
TEACHER/RESEARCH ADVISOR: Richards

formulated the octet rule (Lewis dot structure), concept of Lewis acid/base, and concept of electron pair and shared electron pair bond; accurately measured electrochemical potentials of many elements; studied dyes and colored organic substances in general; discovered (with Calvin) paramagnetism of free radicals and the phosphorescent state of molecules; introduced concepts of activity, fugacity, and ionic strength in thermodynamics; first to obtain macroscopic quantities of D₂ and D₂O and study their properties; obtained first evidence of thermodynamic isotope effects.