McBain, James William 1882 - 1953

DEGREE: PhD DATE: 1906 PLACE: Heidelberg
TEACHER/RESEARCH ADVISOR: Bredig

discovered colloidal electrolytes; investigated the physical chemistry of soaps and detergents, esp.
their electrical conductance, extent of hydrolysis, diffusion, transport numbers, and thermodynamic
properties; studied sorption by charcoal; introduced the concept of the ionic micelle, as well as of
neutral micellar units; investigated the properties of surface layers, devising a moving-microtome
method coupled with an interferometer to determine the composition of the layers; developed the
McBain-Bakr spring balance to measure sorption - his term for adsorption, diffusion, absorption, and
solid solutions.