

PHYSICAL CHEMISTRY DISCUSSION

MACTLAC

October 31, 1981

Discussion Leader - Luther Erickson, Grinnell College

Recording Secretary - Jack Coutts, Lake Forest College

About 35 people attended this group discussion, and most contributed remarks at one point or another during the session.

The chairman polled the group on various items, with the following responses:

- (1) Physical Chemistry text currently used:
Atkins, 6; Barrow, 4; Levine, 3; Adamson, 3; Castellan, 2;
Alberty and Daniels, 2; Bromberg, 1; Moore, 0; Berry, Rice
and Ross, 0.
- (2) Offer special courses in physical chemistry for students
in the health sciences, 4.
- (3) Use ACS examinations in testing, 10.
- (4) Laboratory an integral part of the course, 25;
No laboratory, or laboratory optional, 4.
- (5) Laboratory manuals currently used:
Shoemaker, Garland, et al., 6; Daniels et al., 3; Crockford
et al., 1; White, 0; MACTLAC (Oelke), 0; handouts or oral
instruction, 6.
- (6) Require fairly full laboratory reports, 14.

Most of the discussion centered on the nature of the laboratory course. It was evident that most of the laboratories still incorporate rather traditional experiments, such as bomb calorimetry (10), phase diagrams (16), determination of heat of vaporization of a liquid (14), etc. A substantial number include some quantum experiments (such as measurements on the IR spectrum of HCl), but only 2 indicated use of a computer for data taking (more for data analysis), only one laboratory reported use of a laser, and only one a temperature jump or stopped-flow kinetics experiment. Most participants felt the need for an updating of their laboratory courses but felt hampered by the lack of wherewithal to purchase the necessary expensive instrumentation.