

MINUTES

ORGANIC DISCUSSION GROUP

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Attending the Organic Discussion Group were 43 persons who were interested in various aspects of the teaching organic chemistry. Laboratory occupied most of the discussion. We learned that ^{time} required for organic lab ^{by various institutions} ranges ~~of~~ from about 50 hours of instruction over one semester to almost 150 hours over two terms with all kinds of variations in between. There was no sentiment for eliminating lab because it was too hard to teach or too costly. It was revealed that lab and lecture are often given as separate courses. Some institutions offer lab only after one term of lecture has been taken by the student. The advantage here is that ~~exp~~ the students know some chemistry by then and experiments can be offered which are relatively sophisticated. It was pointed out, however, that chemistry is an experimental science, and it ~~is~~ ^{is} pedagogically important to show students that theory and experiment go hand-in-hand. Moreover, the laboratory ^{if offered concurrently,} can be a vehicle for introducing topics ^{for} which there is ^{insufficient} ~~not~~ time to cover in lecture. A question was asked about lab practical exams and the response was ^{that lab practicals were} ~~relatively~~ little use and generally ^{with} negative ^{results.} Students become too easily flustered to perform well.

The question of qualitative organic analysis.

was discussed at length. Most teachers include qual. organic in their regular lab courses. Perhaps 7-8 schools offer qual. organic as a separate course. It was pointed out that qual. organic gives students their first chance to deal with conflicting data; there is a real departure from "cookbook" experiments. Many seemed to feel the ^{use of} "wet" chemical techniques ~~offered~~ resulted in a better learning experience for students than the use of spectroscopy. There ^{was expressed} ~~was~~ ^{often the} ~~attitude~~ ^{attitude} ~~expressed~~ ^{use of} that spectroscopy takes away from the pedagogical value of qual. organic laboratory by making it too easy to identify unknowns. A few participants discussed their use of computerized qual. organic labs where students interact with the computer before or during their actual work in laboratory.

Turning away from laboratory the discussion covered briefly the use of computers in teaching organic chemistry. One person described his use of graphics to show cyclohexane conformations and introduce Fischer projections. In general rather little use is made of the computer in teaching organic chemistry.

Textbooks occupied several minutes of the discussion. It seemed only three texts find ~~general~~ widespread use: Morrison and Boyd, Solomons, and Streitwieser and Heathcock. Many who were faithful users of Morrison

and Boyd have turned to either Solomons or Streitwieser and Heathcock because they were simply tired of the book. It was opined that Streitwieser and Heathcock offers a real alternative to teaching organic chemistry when compared to other commonly used texts. However use of it requires more careful teaching effort by the instructor and more ~~careful~~ conscientious attention by the student. Cornell

A representative from ~~the~~ ^{Cornell}, where MACTLAC will meet next year, suggested ~~two~~ ^{two} topics for discussion: ^{for next year} "New recipes for organic lab" and "Old recipes used in a new way." Also suggested was a discussion on teaching organic chemistry to students majoring in home economics, nursing, et cetera.

Finally there was brief consideration on the teaching of spectroscopy in lecture. Apparently very little time (2-3 lectures, 7-8% of the course) is devoted to this general topic. Virtually no one teaches about ^{13}C NMR.

With obviously much more on people's minds to discuss we adjourned after one hour until next year.

Respectfully submitted,
 Gary O. Spessard
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