

Seminar zu den LU aus Physikalischer Chemie

WS 2019/20

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- **Course goal:** Learning how to give a presentation and verify presentation skills
- Topics are about physical chemistry
- Presentations are 15 min long (**10 min talk + 5 min questions**)
- Language: English or german
- There will be a jury (four people) for each presentations:
 - Each member of the jury must ask a question
 - Four questions from the jury
- **Attendance is mandatory**

Online Material

Guidelines, Topics, Updated Schedule

- <https://chemie.uni-graz.at/de/pc-tc/seminarzu-laboruebungen-aus-physikalischer-chemie/>
- <http://www.nanograz.com/teaching/>

Schedule

- 21 Students, three appointments:
 - 21 Nov (5)
 - 28 Nov (8)
 - 5 Dec (8)
- Presentation ready on a USB drive (come few minutes earlier)
- Transfer your presentation onto PC at the beginning of the session
- Format: PPT (and pdf just in case)

Presentation

- The topic is physical chemistry
- You have some flexibility/freedom in developing your presentation
- Careful, try to make clear the
 - story you want to tell
 - messages you want to deliver

Literature

- Reference of high quality (book, journal articles, review articles)
- In case use database like google scholar and web of science
- Careful if you use wikipedia or high school websites (high variable quality)

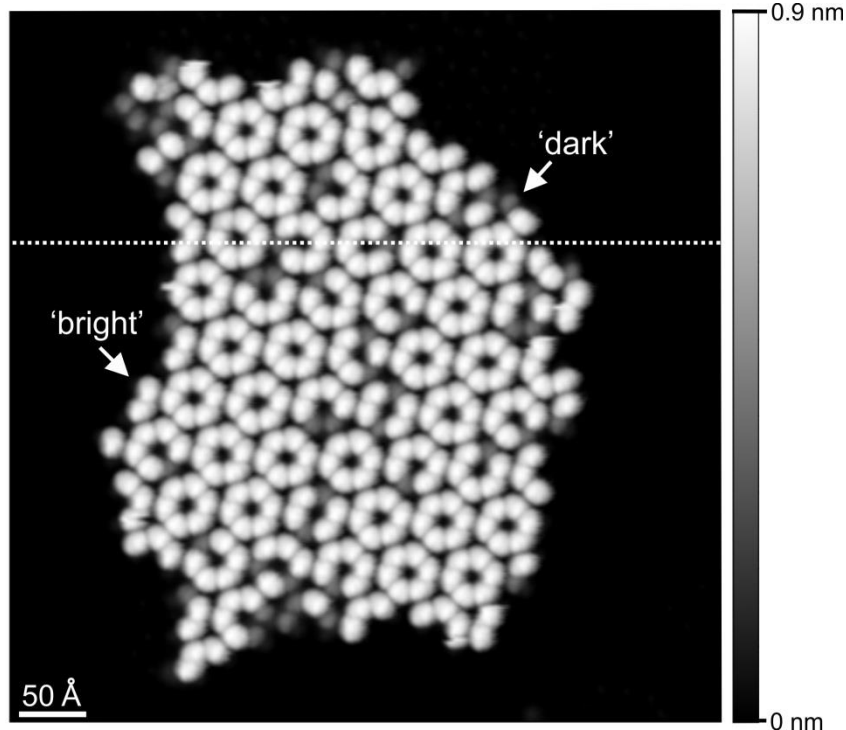
Presentation

- Introduction (1 min)
- Discussion (8 min)
- Conclusions (≤ 1 min) – few take-home messages
- **Golden rule:** one minute per slide

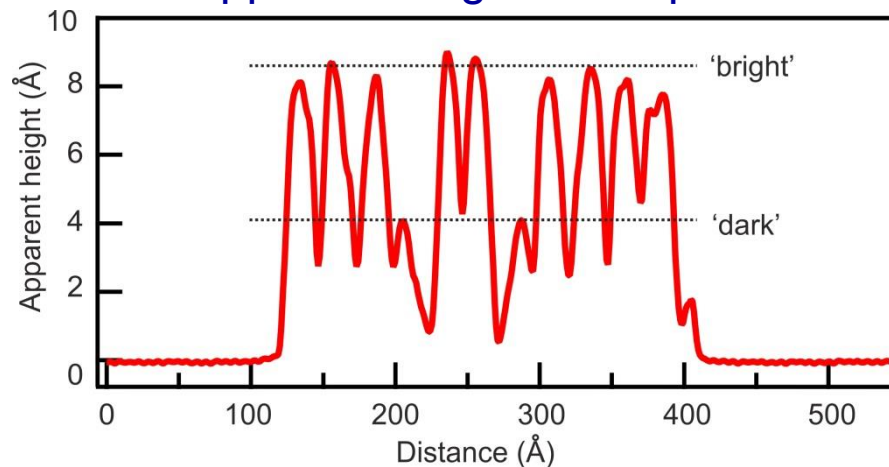
Presentation - Suggestions

- Introduce the topic you are going to talk about
 - The beginning is very important – explain the audience clearly and simply what it is about.
 - This should calm also your nerves...
- Slides: clear, understandable and exciting
- Highlight the key points (use different colors and character with different size)
- Make clear the role of each slide
- Diagrams (description, meaning, citations)
- Avoid to fill your slides with a lot of text - Use short sentences/keywords
- Don't go too much in details - Focus on the core messages and keep it simple as much as possible

STM imaging

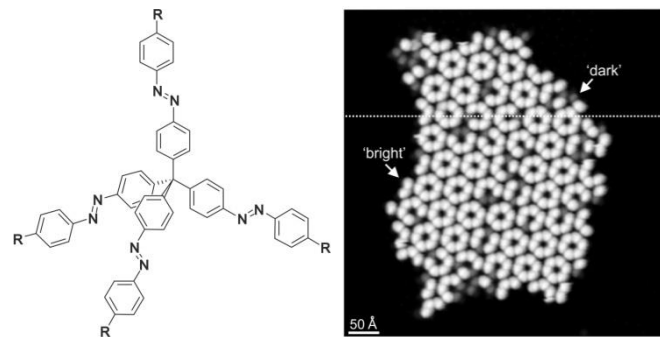


Apparent height – line profile

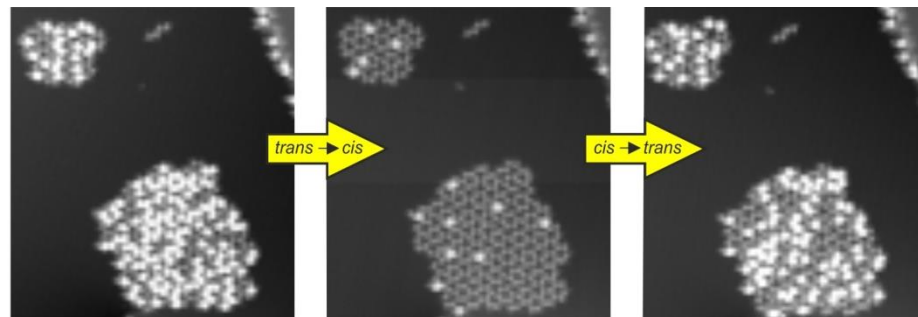


- Molecular aggregates reveal six-lobes objects arranged according to hexamer structures
- The majority of the lobes are in the 'bright' state
- Lobes are present in two different heights: $4.19 \pm 0.24 \text{ \AA}$ and $8.87 \pm 0.12 \text{ \AA}$ – named 'dark' and 'bright'

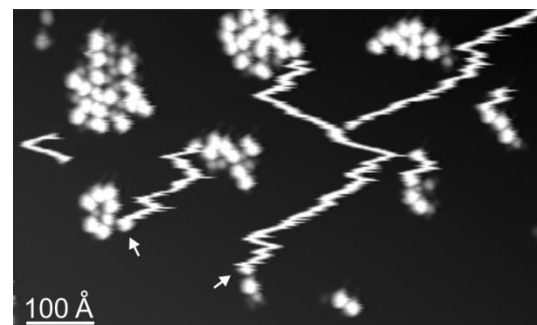
3D molecules comprised by four azobenzene switching units assemble into ordered hexamers



Efficient reversible photo-isomerization



Isomer-dependent diffusion of individual tetra-azo species



Presentation - Suggestions

- Make eye contact with the audience
- Do not read your slides – simply describe their content
- Speaking too fast, speaking too slow 😞
- Take-home messages - short and effective (just 1 min or less)
- Do not forget citations and report them correctly (authors, journal/book, page, volume, year,...)
- You do not need to read literature references
- Practise at home

Grading - Presentation

- **Presentation must be 10 minutes**
 - Short presentations will be heavily penalized
 - Dose carefully the discussion of details
 - **Stop after 11 minutes**

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- Your grade is defined by two components
 - The jury score of your presentation
 - Your active participation as a member of a jury

Grading - Presentation

- Individual jury grades remain anonymous
- A fair and honest evaluation of your classmate is required
- I reserve the right to adjust the jury grade

Presentation - Evaluation

- **Introduction**

- Introduction to the topic. Accuracy of the background.

- **Content**

- Goal, hypothesis, research questions, suitable data?

- **Structure**

- Logical organization; Did the talk flow smoothly throughout? Are the slides clear?

- **References and visual aids**
 - Was the content well-supported with references? Are the diagrams/images well presented and explained?
- **Presentation styles**
 - Has the speaker clearly spoken? Did the speaker maintain the audience's interest?
- **Time management**
 - Was the speaker in perfect timing?
- **Questions**
 - Were the audience's questions clearly answered?
- **Conclusions**
 - Were the key-messages properly communicated?
Has the speaker missed to deliver important information?

Jury questions

- Scientific and pertinent questions

How does the parameter X depends on Y?

What is the physical/chemical meaning of this behavior/result?

Are there some dependence on ...?

- What you should not ask

What is the value of the Boltzmann constant?

What does DNA mean?

How is this relevant in physical chemistry?