Lumineszcens arany(I)- tartalmú óriásmolekulák

Készítette:

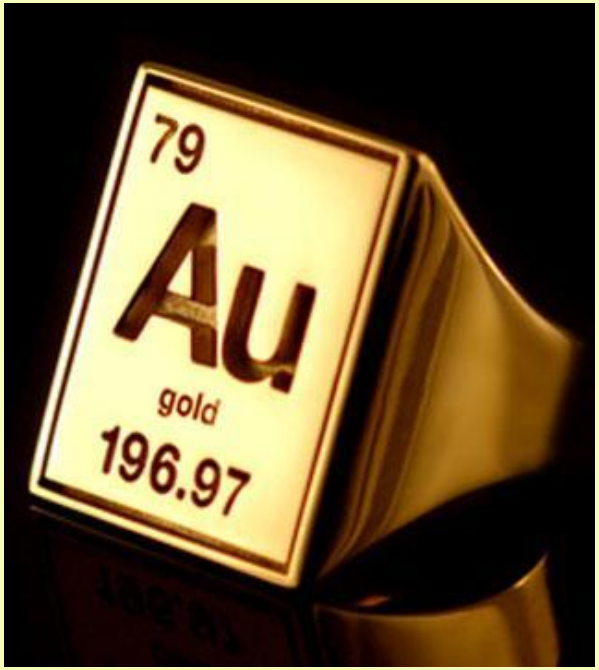
Horváth Réka, Kóczi Ferenc, Paizs Ferenc és Timár Paula

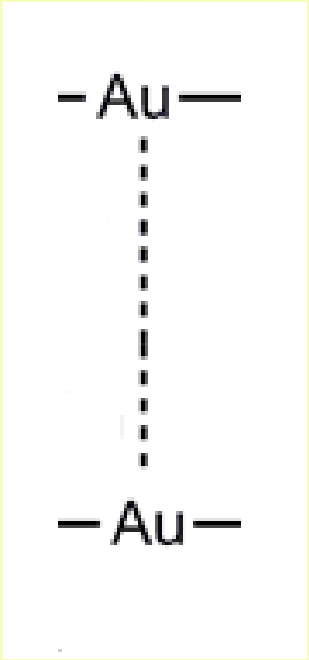
MTA TTK, Szerves Kémiai Intézet

Témavezetők: Dr. Baranyai Péter
Jobbágy Csaba

Aranyvegyületek

- Aurofil kölcsönhatás

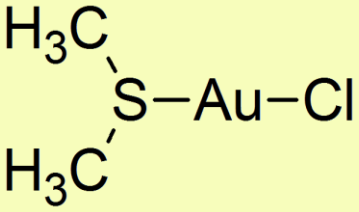


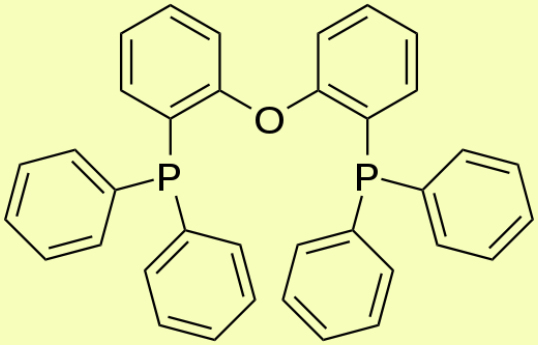


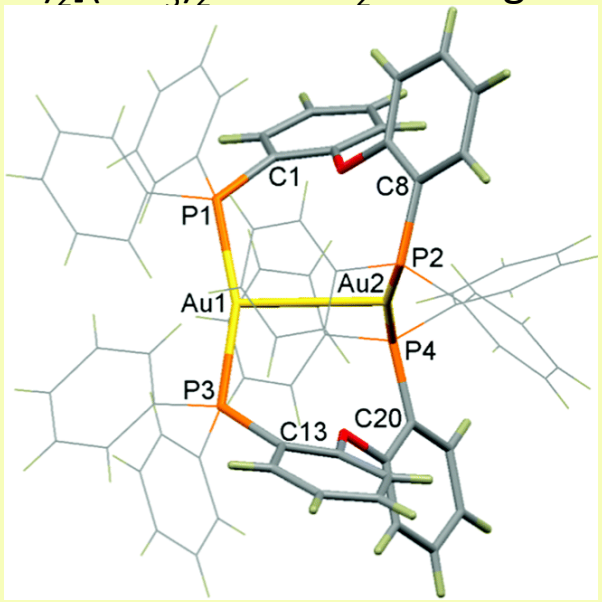
Munkafolyamat

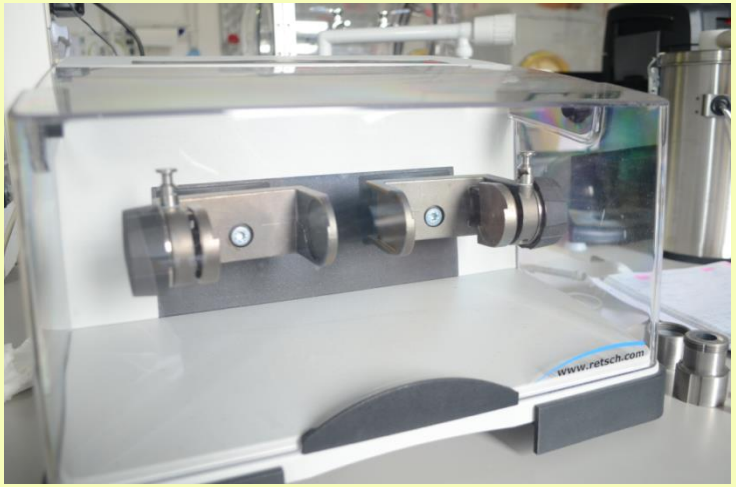
- Kristályok létrehozása

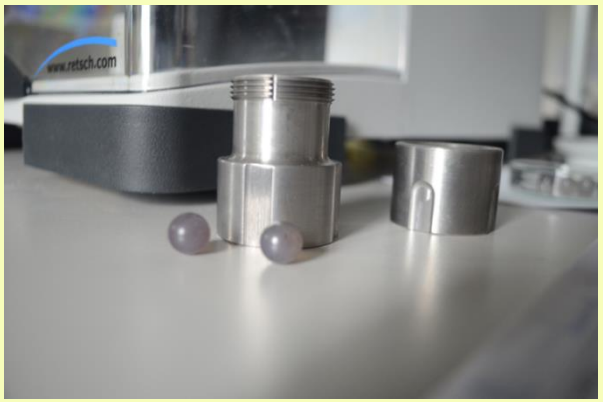
  2 Me_2SAuCl + 2 Dpephos + 2 $AgNO_3$ → $[Au_2(Dpephos)_2](NO_3)_2$ + 2 Me_2S + 2 AgCl







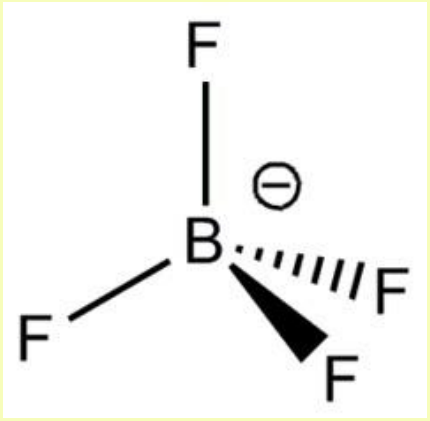


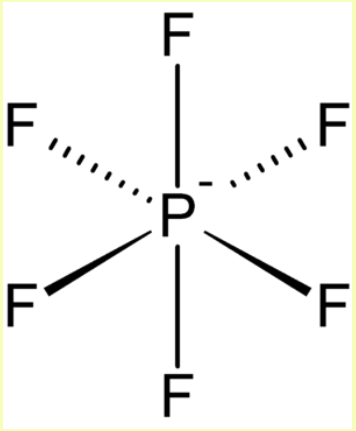


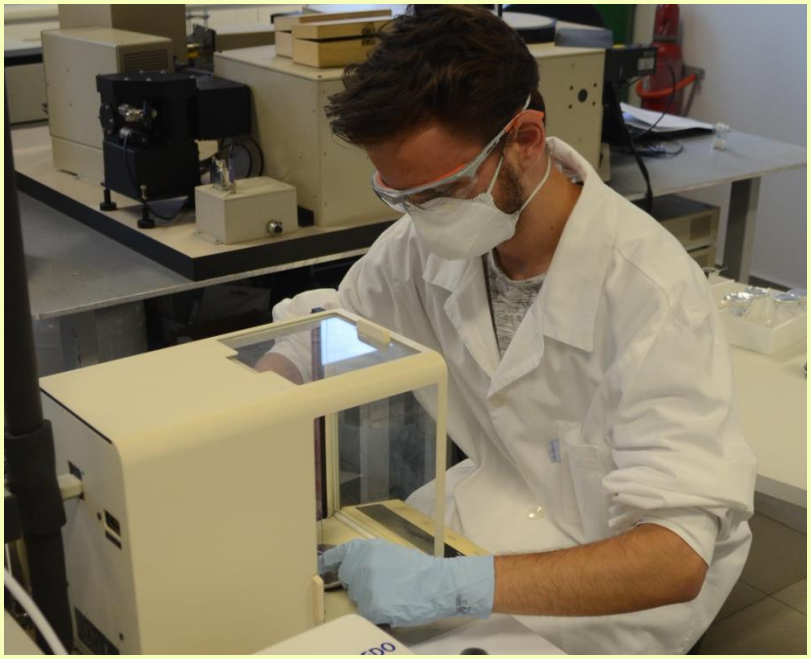
Anioncsere

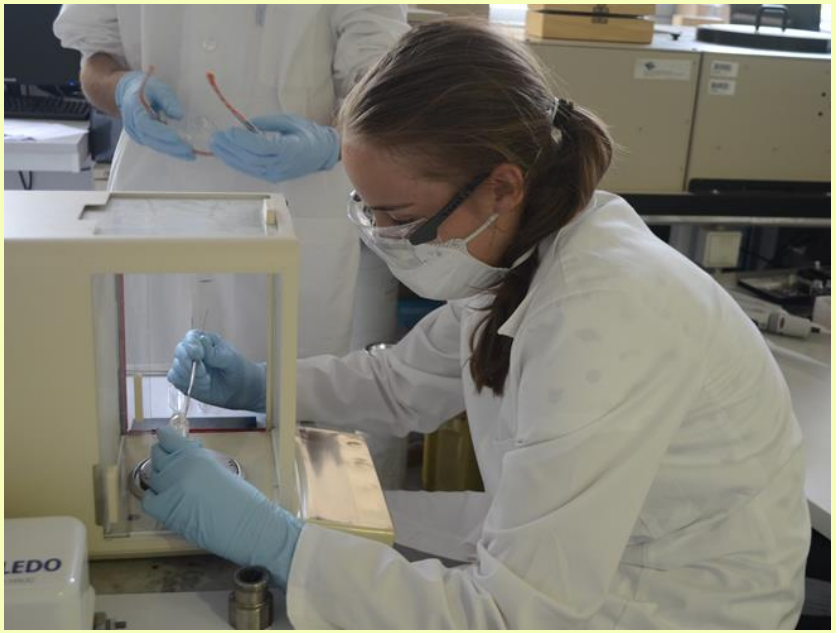
$[Au_2(Dpephos)_2](NO_3)_2 + NaX = [Au_2(Dpephos)_2]X_2 + 2\ NaNO_3$

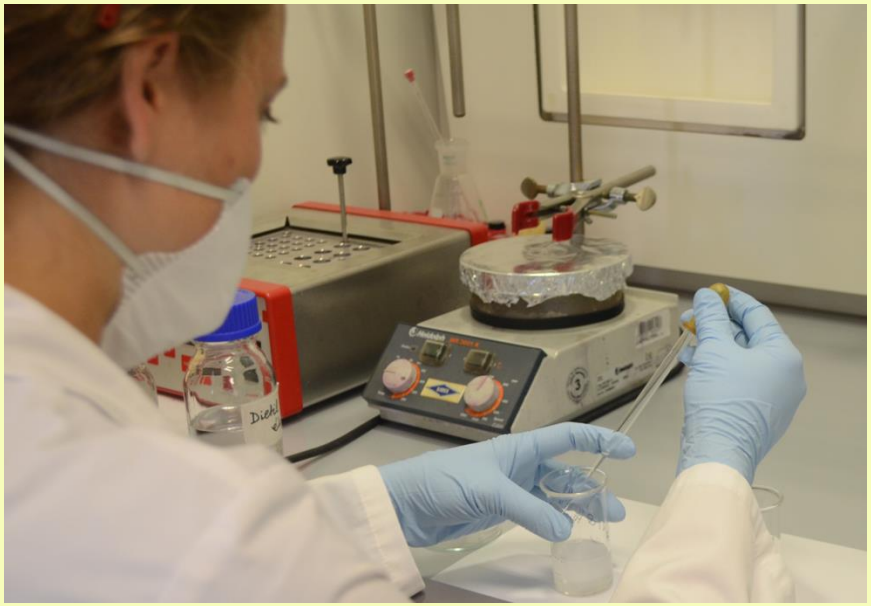
$X = BF_4, PF_6$

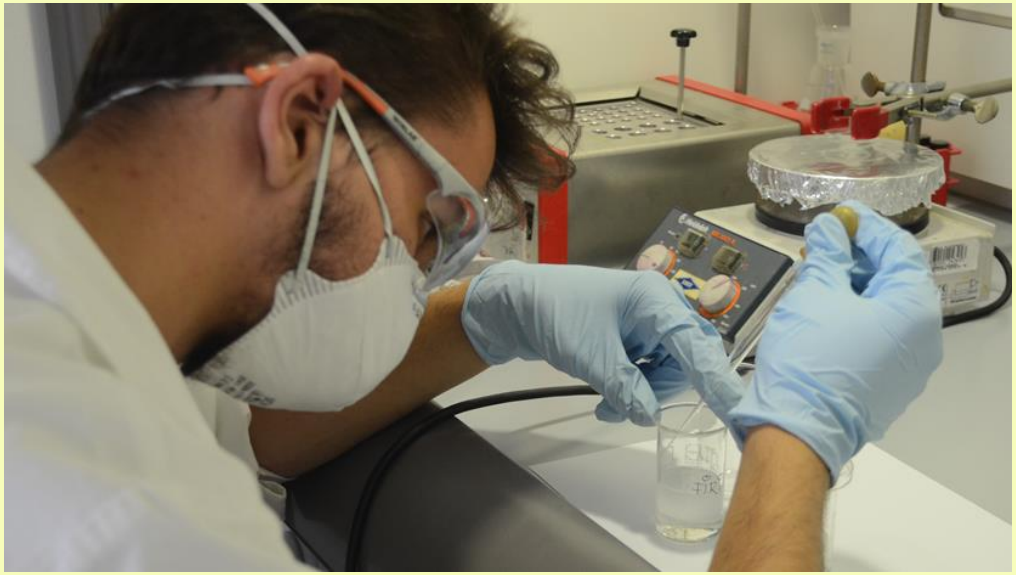


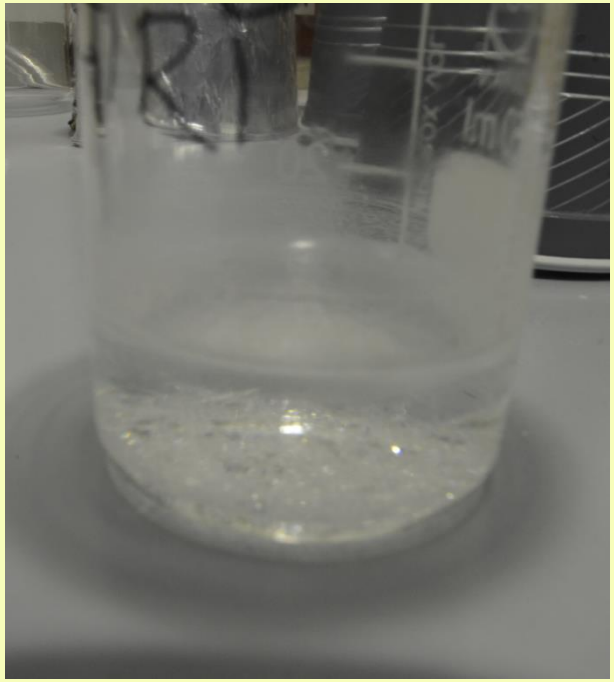








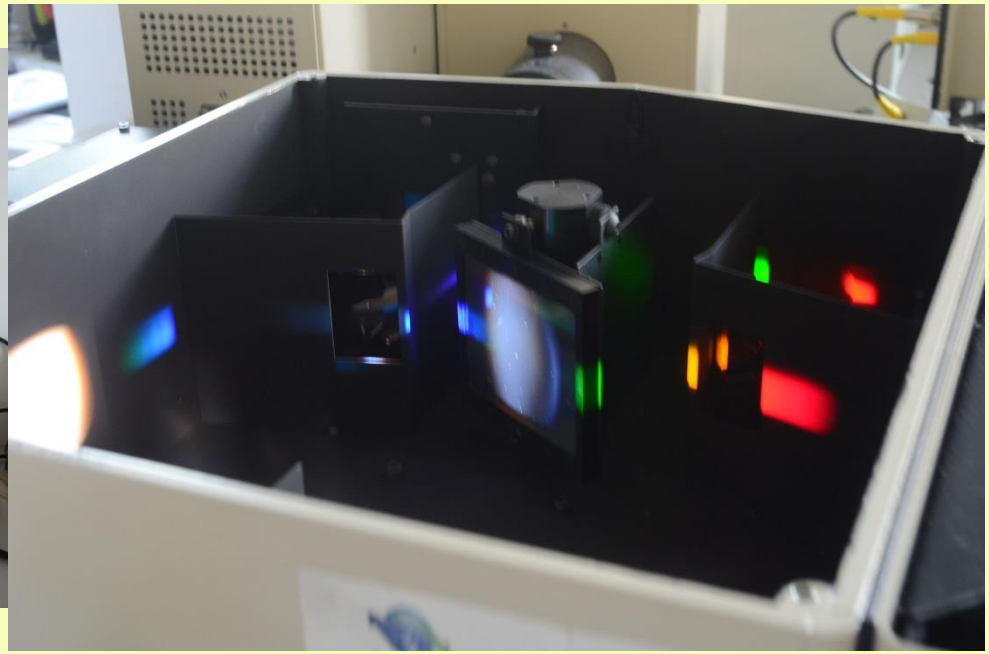





ŘEKA

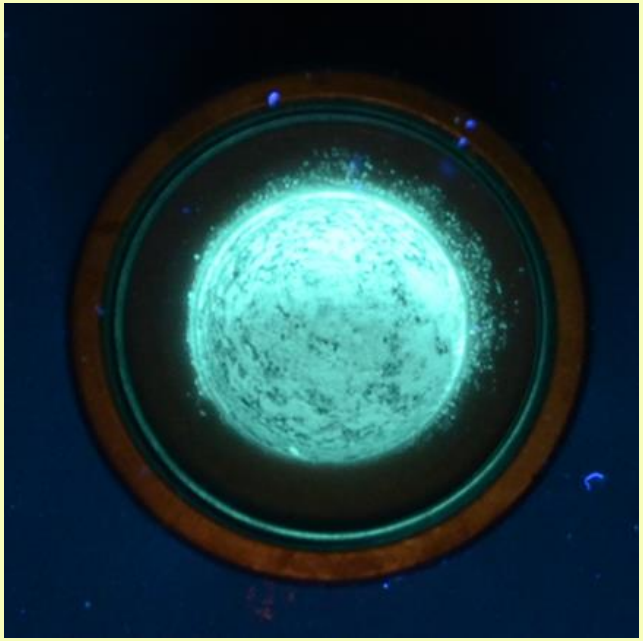
Vizsgálatok

- UV-fény alatt
- Lumineszcencia spektrofotometria

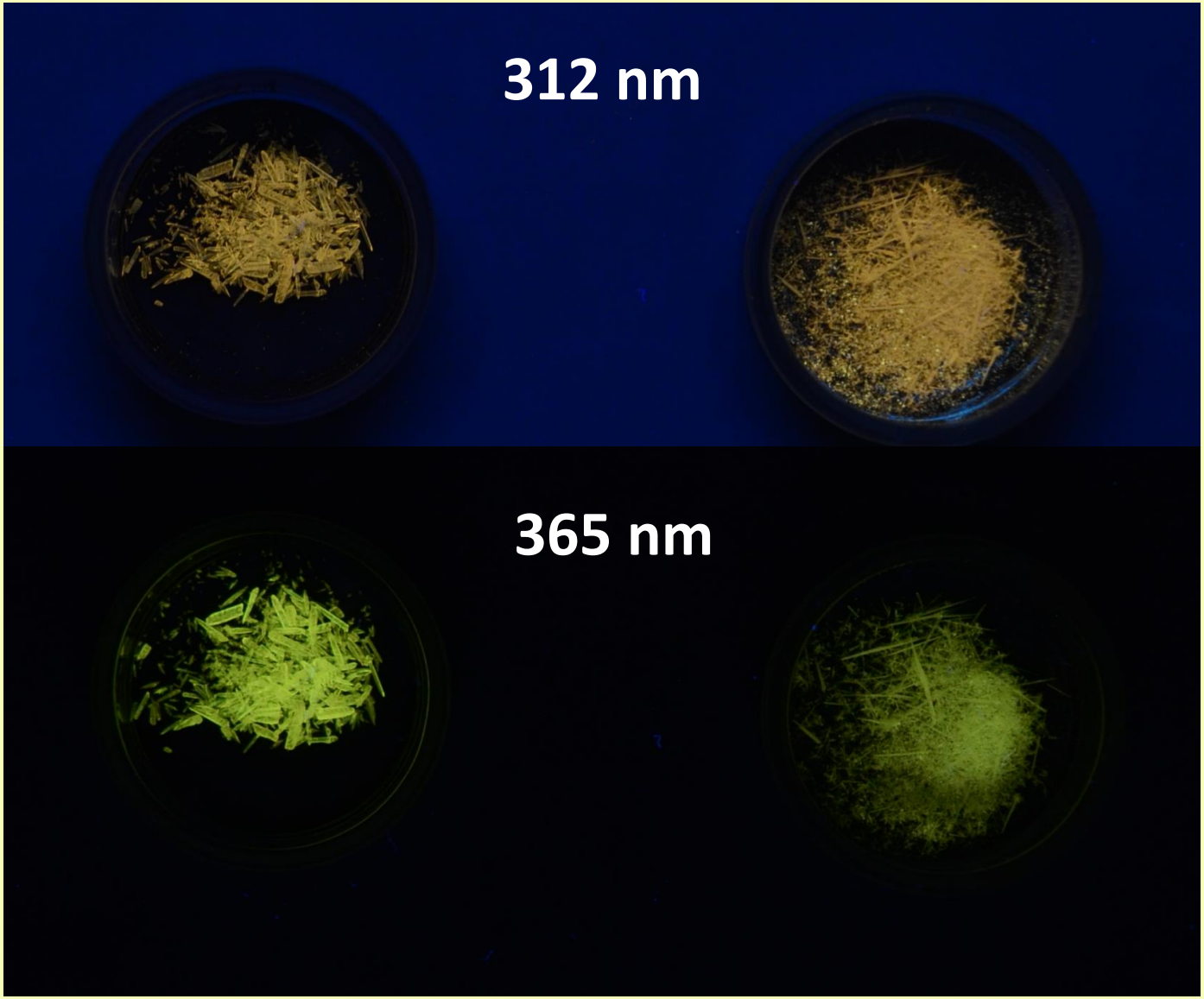


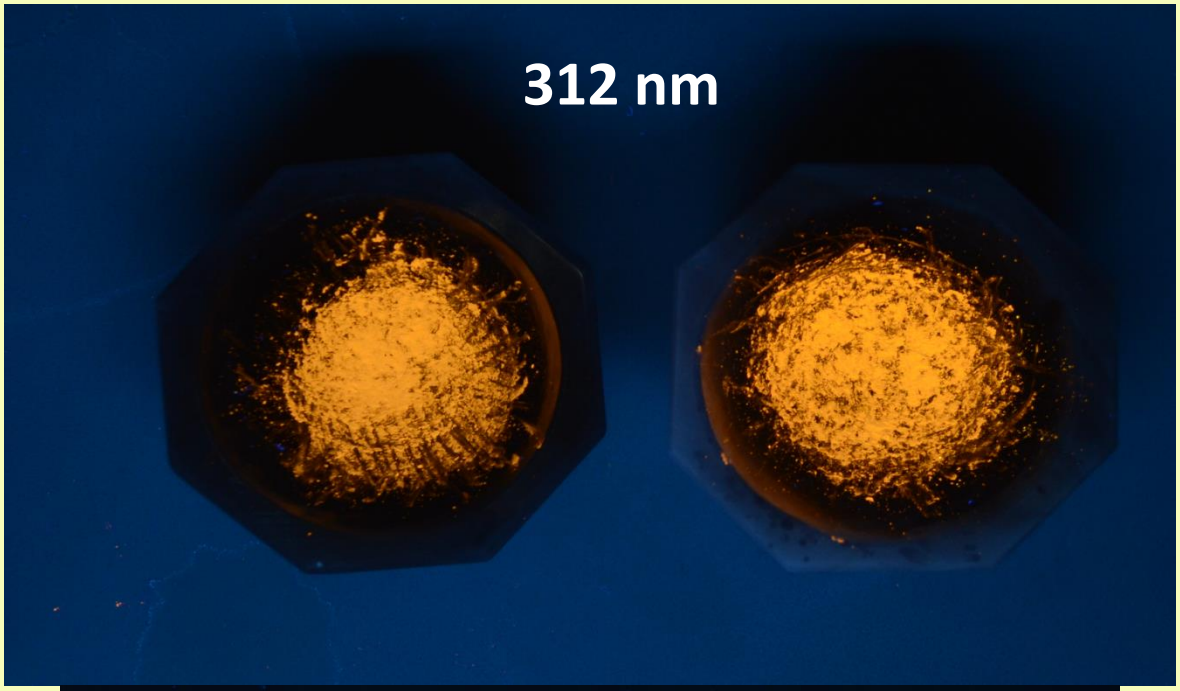
Fotolumineszcencia

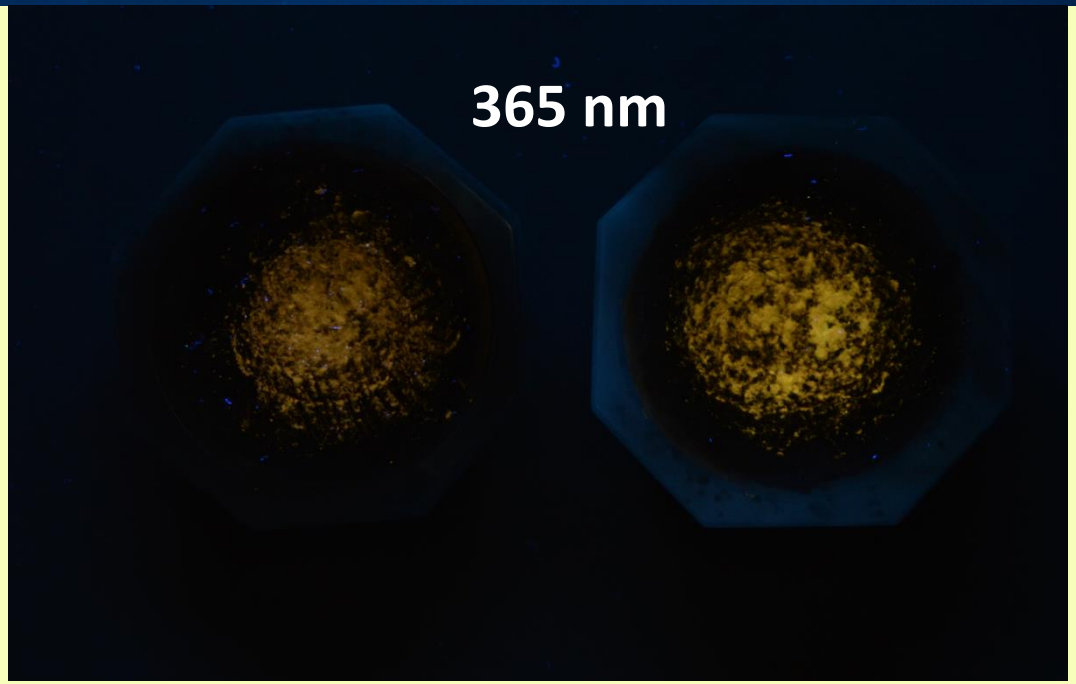
- Mechanokróm, termokróm fotolumineszcencia



- Az anion cserélt vegyületeket vizsgáltuk
  több hullámhosszon – eltérés!



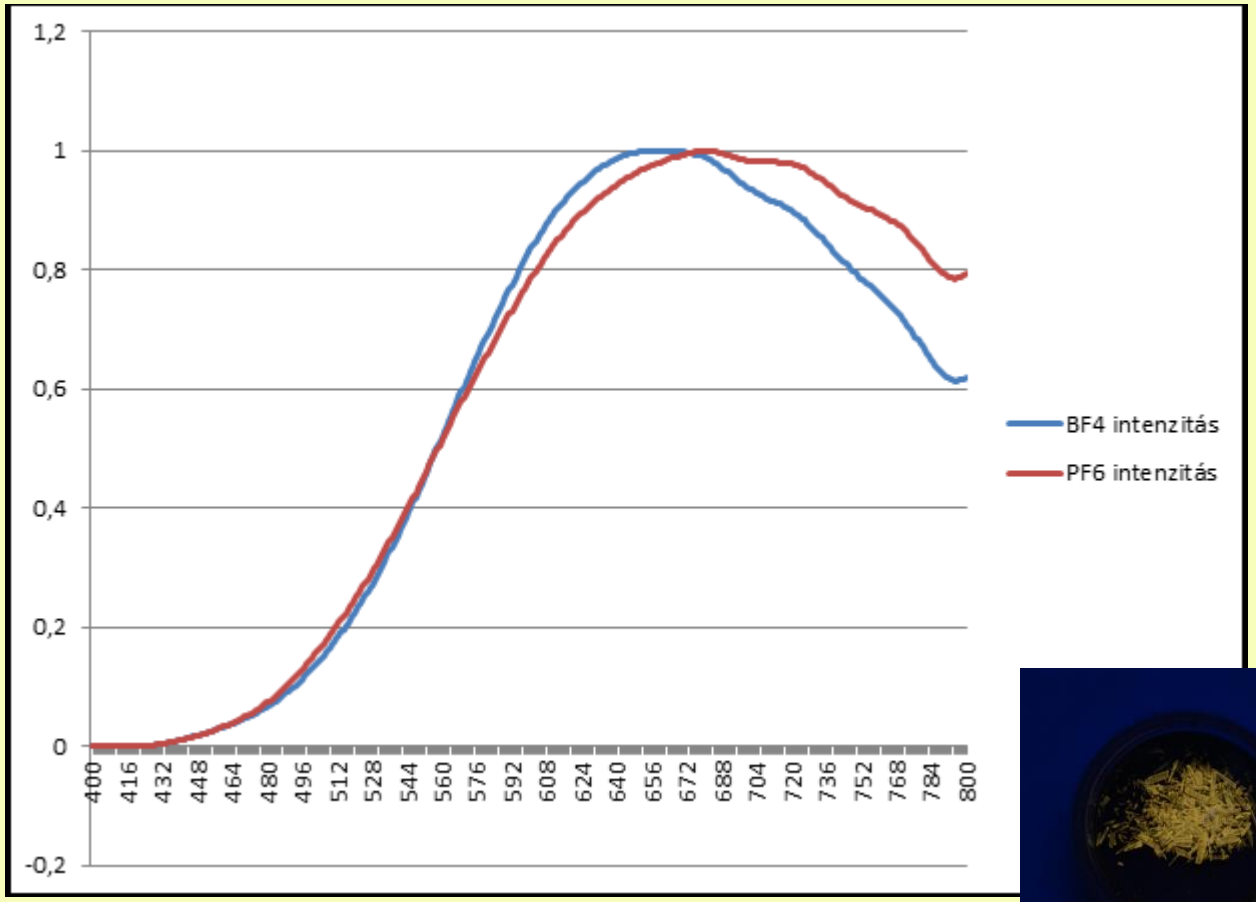

312 nm

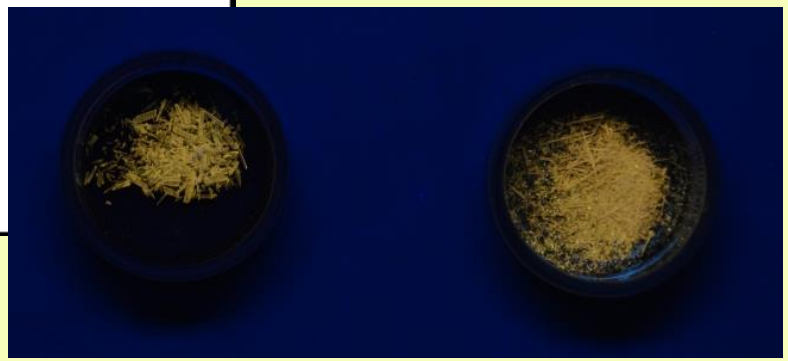

365 nm

Lumineszcencia spektrofotometria

- A spektroszkópia alapelve
- Méréseink
  - 312/365 nm
  - 77K/szobahőmérséklet
  - mechanikai erőhatás után

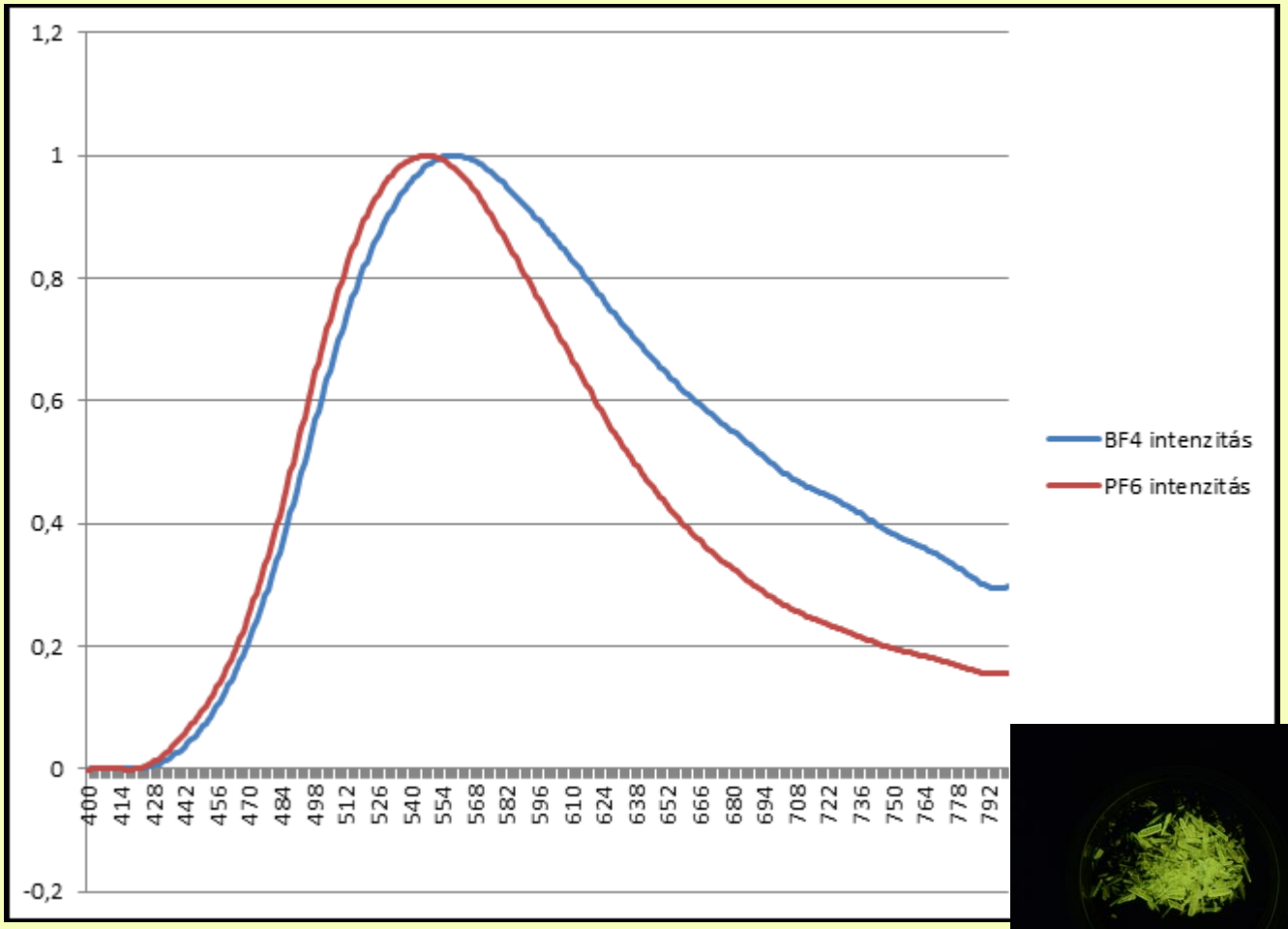
Spektrumok (312 nm)

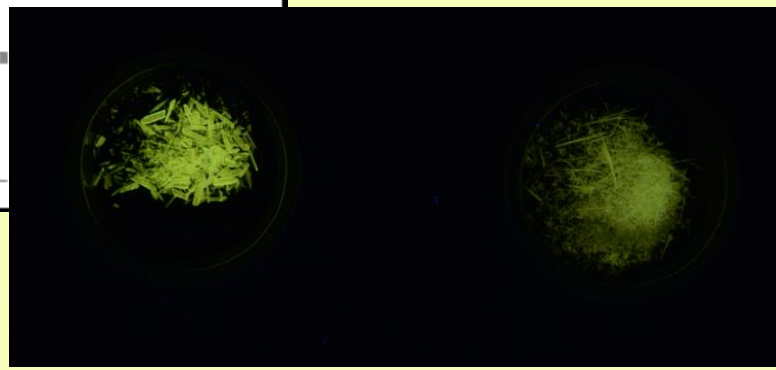




narancssárga

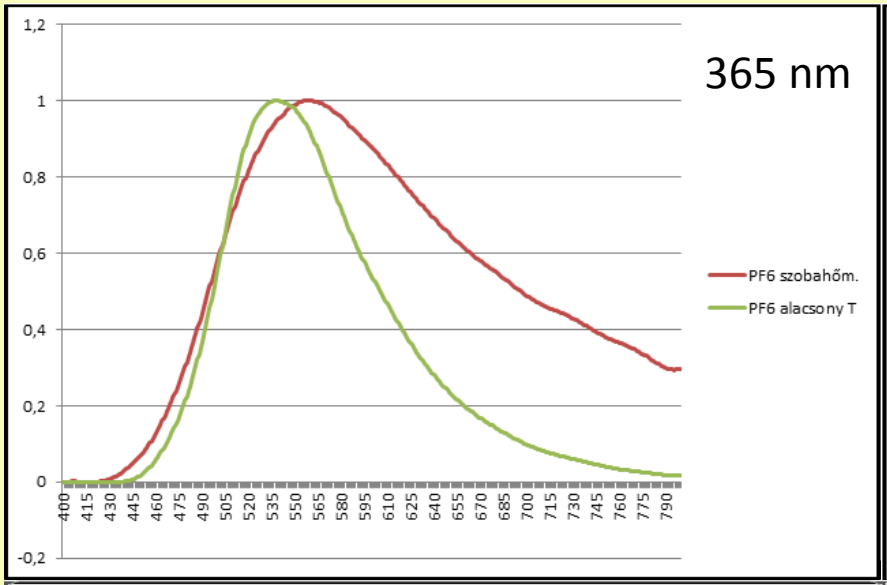
Spektrumok (365 nm)

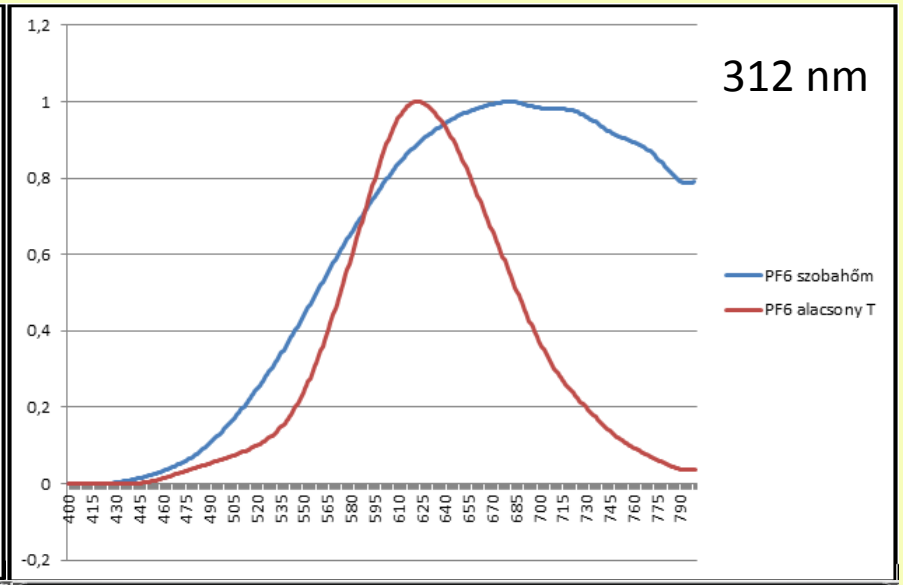


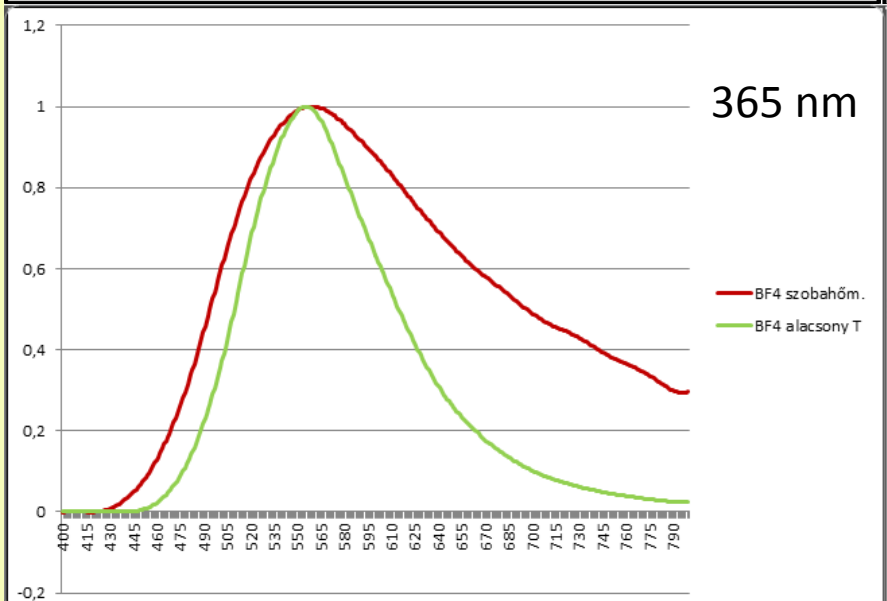


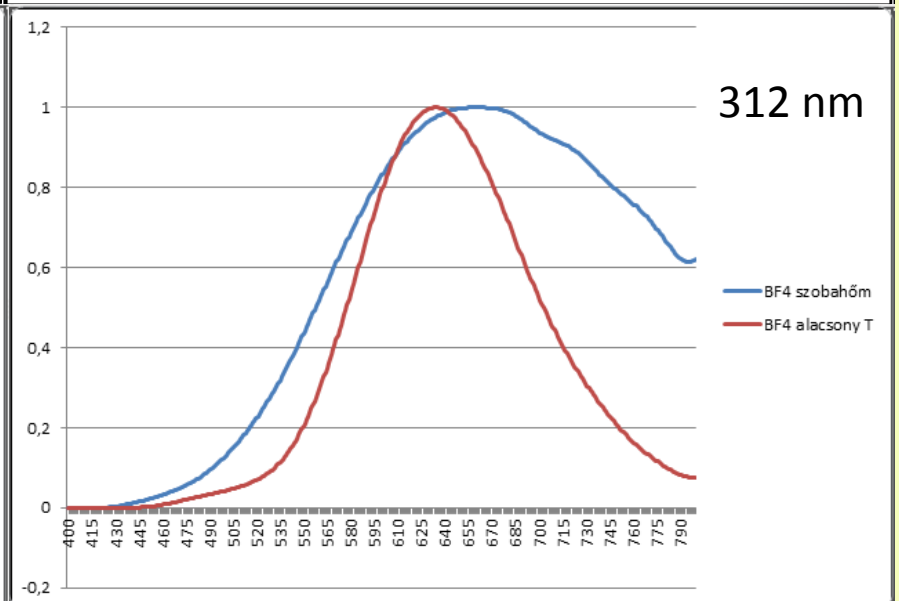
Zöld

Spektrumok (különböző T)

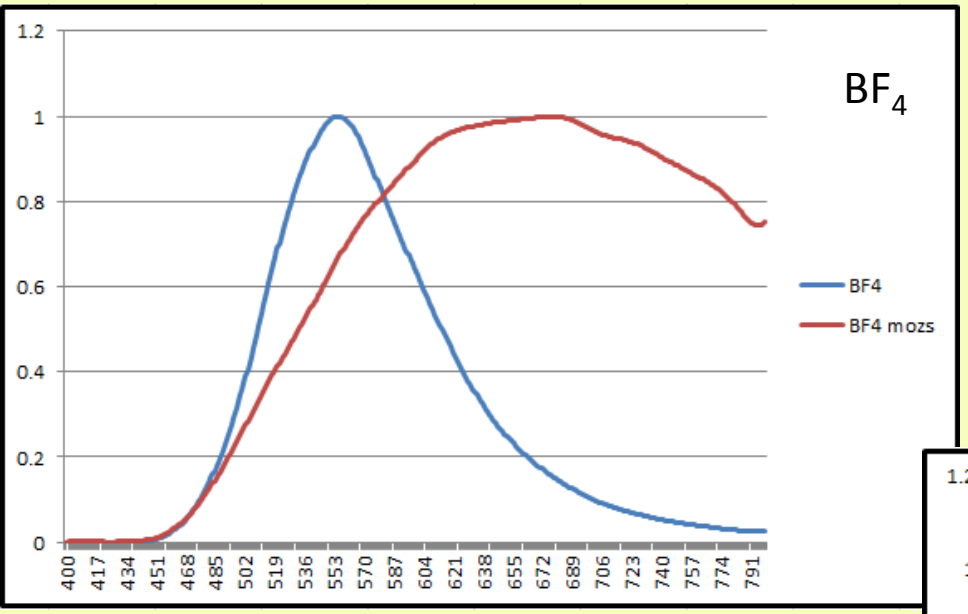






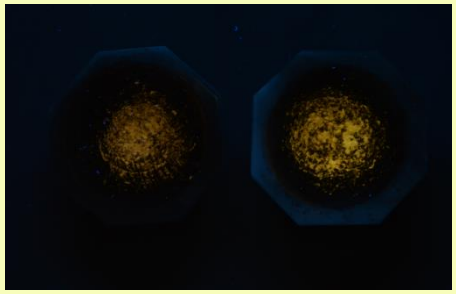


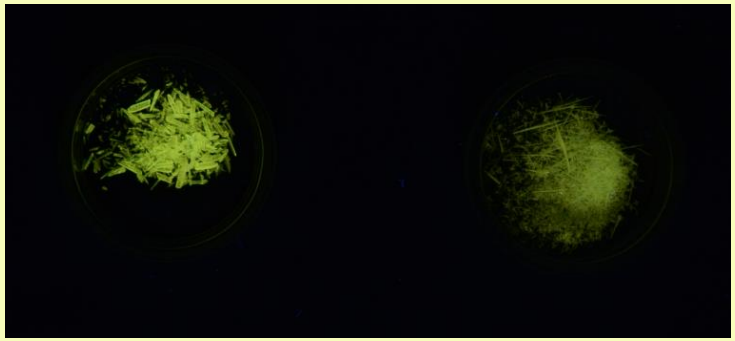
Spektrumok

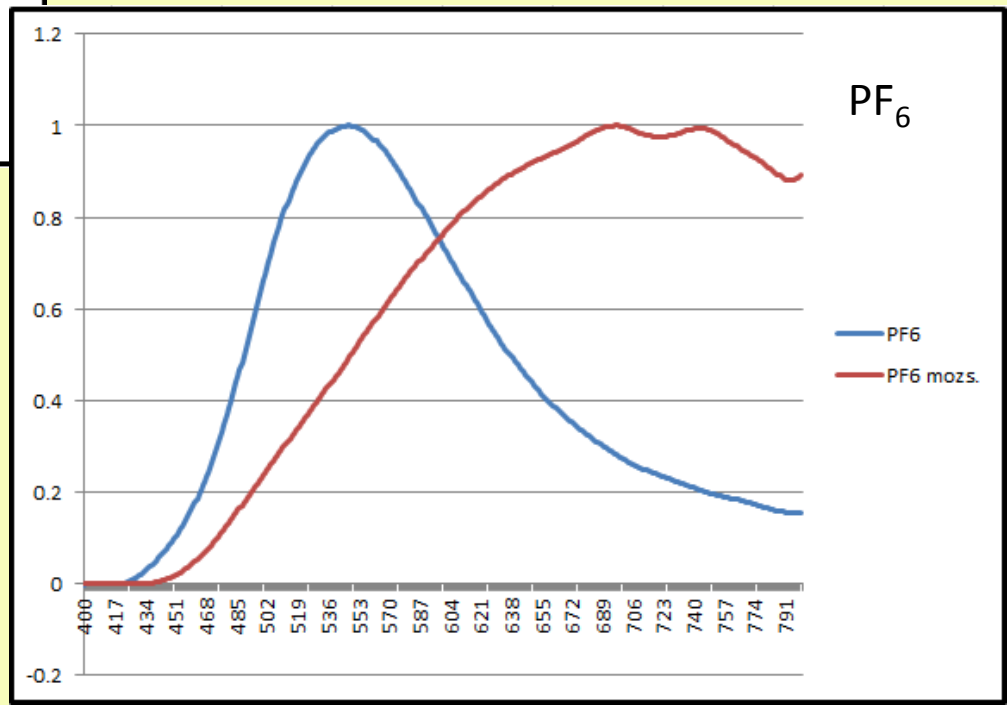


BF_4

Mechanikai erőhatás előtt és után







PF_6


mta ttk