

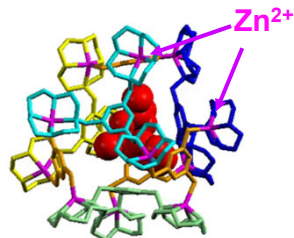
生命創薬科学科

青木伸研究室 (生物有機化学)

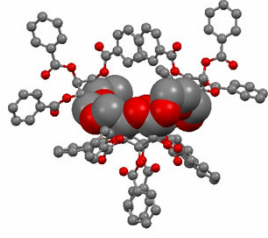
<https://www.rs.noda.tus.ac.jp/aokilab//>

オリジナルな分子・自己集積体の設計・合成に基づく
生体现象・生体反応の理解と制御
～機能性分子の創製・触媒反応開発・創薬～

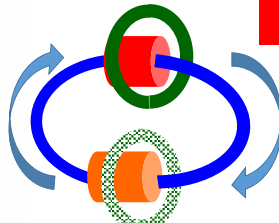
オリジナルな錯体合成と発光機能制御



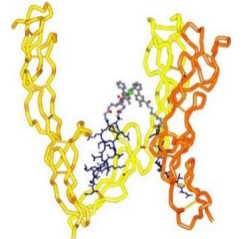
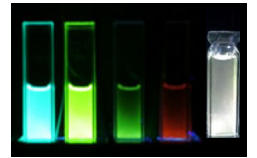
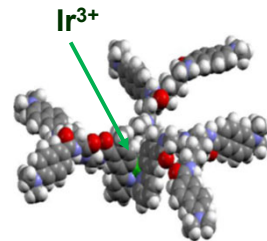
超分子カプセル



糖鎖合成

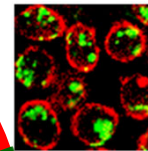


超分子機械

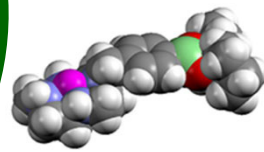


タンパク質間相互作用制御

がんイメージングと抗がん剤開発



¹¹B NMR/MRI



がん放射線治療用薬剤 (中性子捕捉療法 (NCT)) と薬剤イメージング

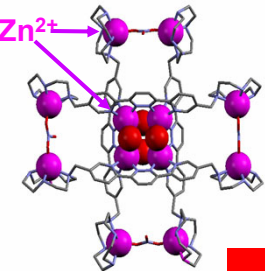
Chemistry (化学)

生命創薬科学

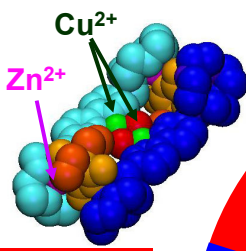
Physics (物理学)

Engineering (工学)

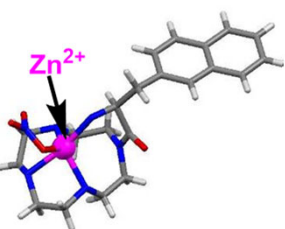
Biology (生物学)



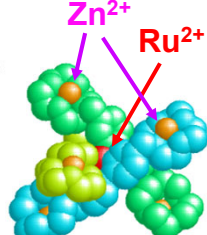
超分子触媒



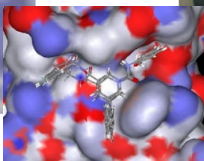
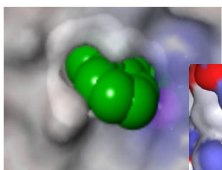
生体内分子の発光プローブ



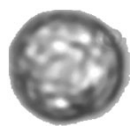
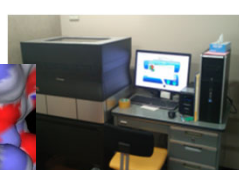
In Cell不斉触媒



生体内分子の発光プローブ



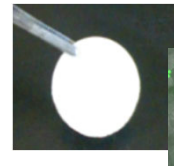
In silico-3D printer創薬 (抗菌・抗ウイルス・抗がん剤)



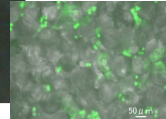
CTC検出PCソフトウェア



がん転移・再発に関わる血中循環がん細胞 (CTC) の検出・捕捉・培養・回収



ガラスビーズフィルター (GBF)



セレンディピティ (非常識の発見・小さな発見を大きな研究に)
Negative thinking → Positive thinking
基礎科学重視・Only One in the World



生物有機化学フォーラム2017 (青木研15周年記念講演会) 2017 (平成29) 年11月11日(土) 森戸記念館・神楽坂8号館



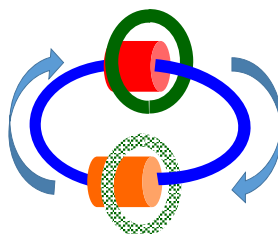
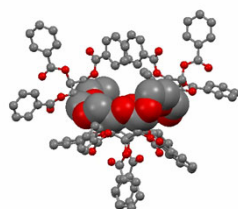
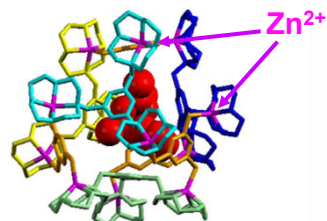
2019 (令和元) 年の研究室メンバー



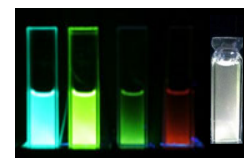
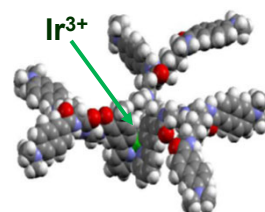
Department of Medicinal & Life Sciences Bioorganic & Bioinorganic Chemistry Laboratory (Prof. Shin Aoki)

<https://www.rs.noda.tus.ac.jp/aokilab//>

Design & Synthesis of New Artificial Compounds & Supramolecular Complexes for Biological & Medicinal Chemistry & Material Sciences (Probes, Catalysts & Drugs)



Design & synthesis of original metal complexes

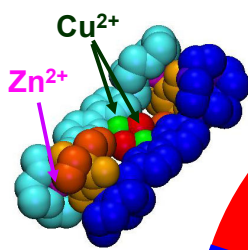
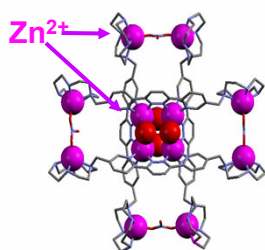
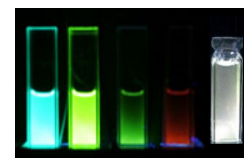
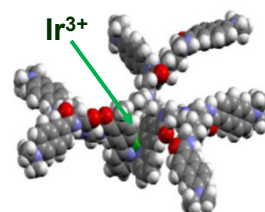


Supramolecular capsules

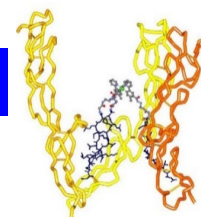
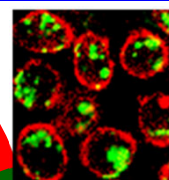
Oligosaccharide synthesis

Supramolecular machines

Design & synthesis of original metal complexes



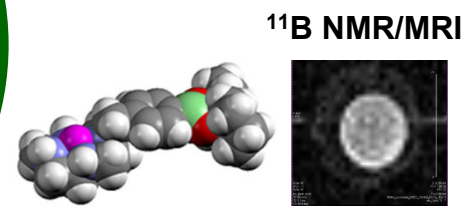
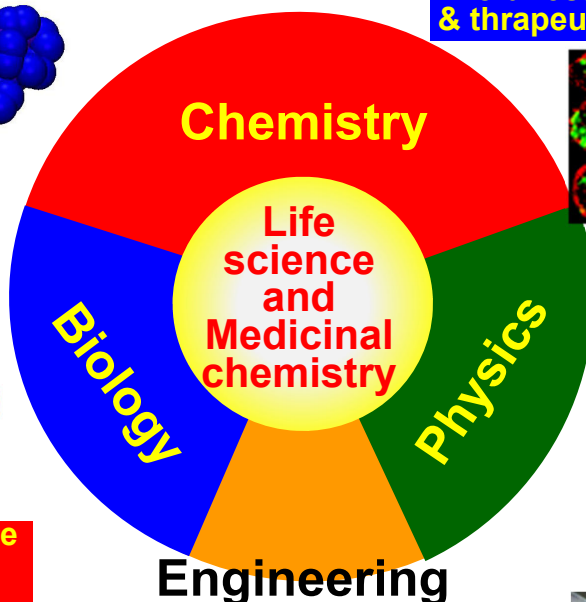
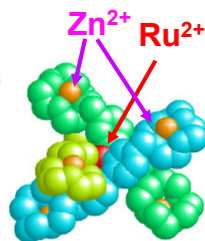
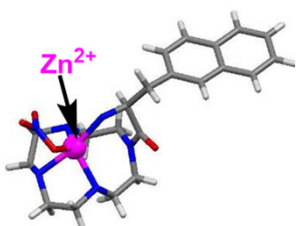
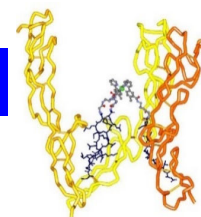
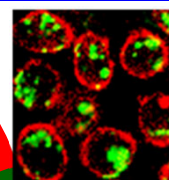
Theranostics (diagnosis & therapeutics) of cancer



Supramolecular catalysts

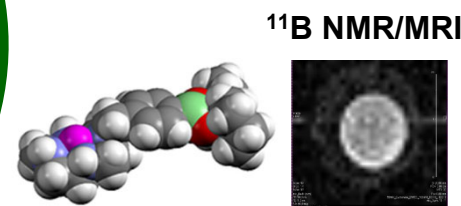
Luminescence probes of intracellular molecules

Theranostics (diagnosis & therapeutics) of cancer

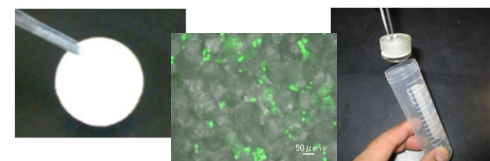
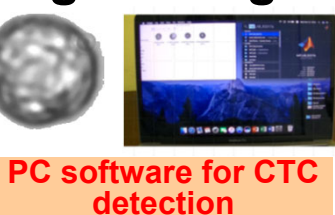


In Cell asymmetric synthesis

Luminescence probes of intracellular molecules



In silico-3D printer-based drug design (Antibiotics, antiviral & anticancer agents)



Detection, separation, regrowth, and recollection of circulating tumor cells (CTC) for cancer theranostics

Discovery of New Phenomena (Serendipity is Important)

Only One in the World Based on Basic Science

Postgraduate Students & PD from Foreign Countries are Welcome

