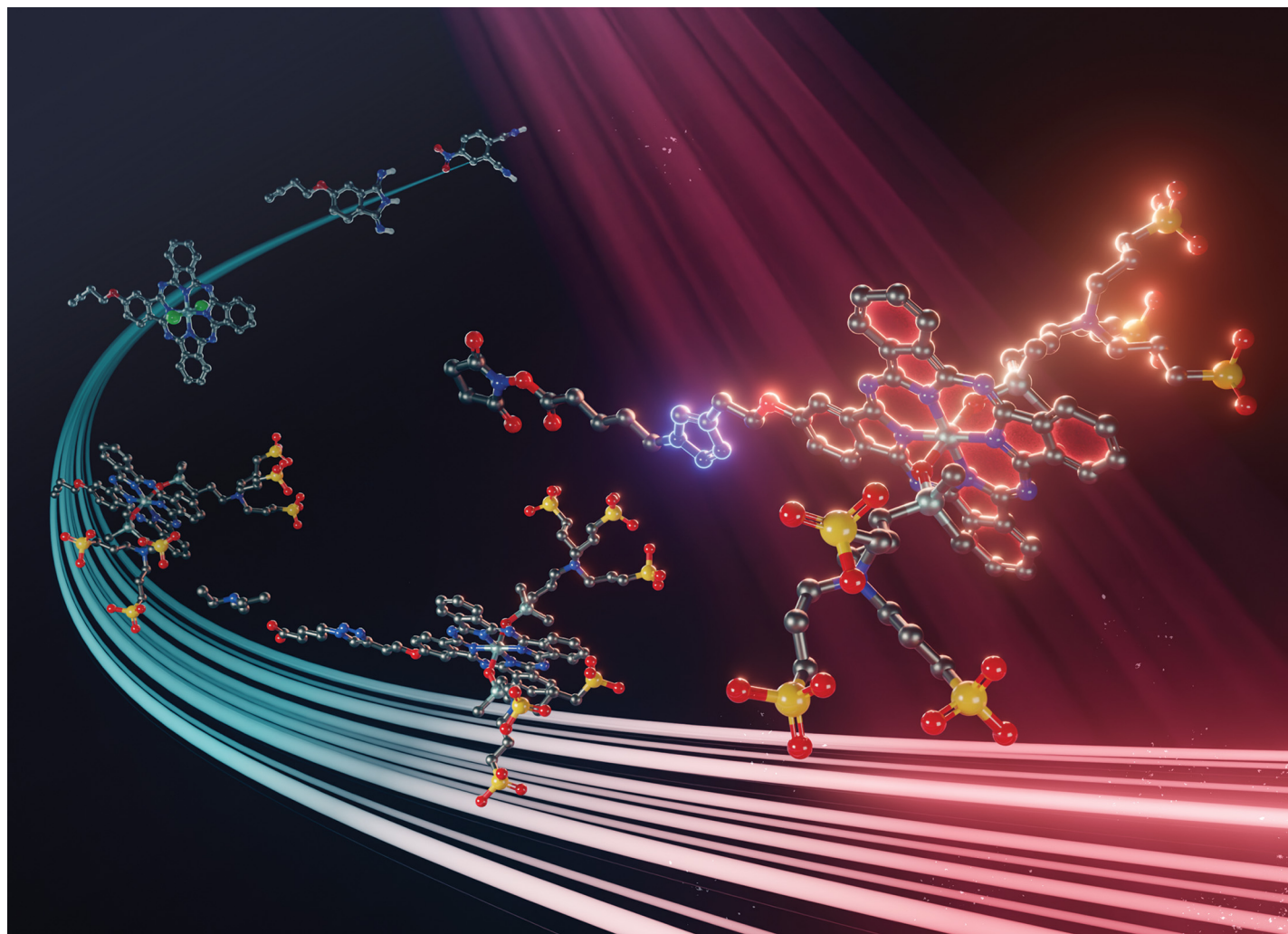




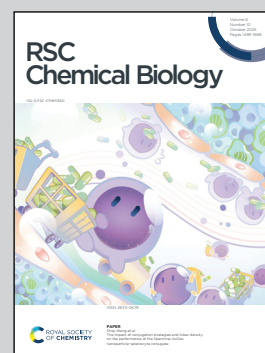
**Showcasing research from Professor HANAOKA's laboratory,
Graduate School of Pharmaceutical Sciences, Keio University,
Tokyo, Japan.**

Development of a silicon phthalocyanine analogue for near-infrared photoimmunotherapy and its application to HTLV-1-infected leukemic cells

Near-infrared photoimmunotherapy (NIR-PIT) employing an antibody labelled with a silicon phthalocyanine dye, IR700, was approved in 2020. However, further derivatization of IR700 is needed to increase the efficiency of cancer treatment. We newly developed SiPc-1 as an IR700 analog, in which the linker was constructed using click chemistry to simplify the synthetic scheme and its position was switched from α to β on the benzene ring of phthalocyanine to eliminate intramolecular steric repulsion. An anti-CD25 antibody, basiliximab, labelled with SiPc-1 showed selective toxicity towards human T-cell lymphotropic virus type 1 (HTLV-1)-infected cells.

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