

Public Abstract

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Graduation Term:FS 2014

Department:Chemistry

Degree:PhD

Title:Fluorescent Chemosensors for the Detection of Biological Amines

Chemical sensing has become an important field for the study of biologically relevant compounds like amino acids (the building blocks of proteins) and neurotransmitters (e.g., epinephrine, dopamine, serotonin, etc.). Chemical sensors (chemosensors) can help elucidate normal physiological processes as well as provide key information pertaining to the development and progression of diseases. Discussed herein is a brief introduction to fluorescence, design and organic synthesis of sensors, and live cell imaging. The chemosensors fluoresced when bound to biological molecules that can contribute to cancer progression and neurodegenerative diseases when present in abnormal concentrations. Ultimately, we were able to see fluorescence signals from live cells in vesicles where neurotransmitters are packaged. These tools can be of great use to scientists studying human physiology and pathology.