Development of Fluorescent Ca$^{2+}$ Sensors

**Significance:** Calcium sensors such as indo 1 are routinely used in biological research to monitor calcium mobilization. Calcium can be mobilized from various subcellular compartments (e.g., ER, lysosomes, or mitochondria) and via different mechanisms (e.g., activation of $G_q$-coupled GPCRs or ion channels).

**Comment:** Indo 1 and five other fluorescent calcium indicators were synthesized through related synthetic routes. They can be easily converted into AM-Dyes. The general synthesis of AM-Dyes was published in *Nature* 1981, 290, 527–528.