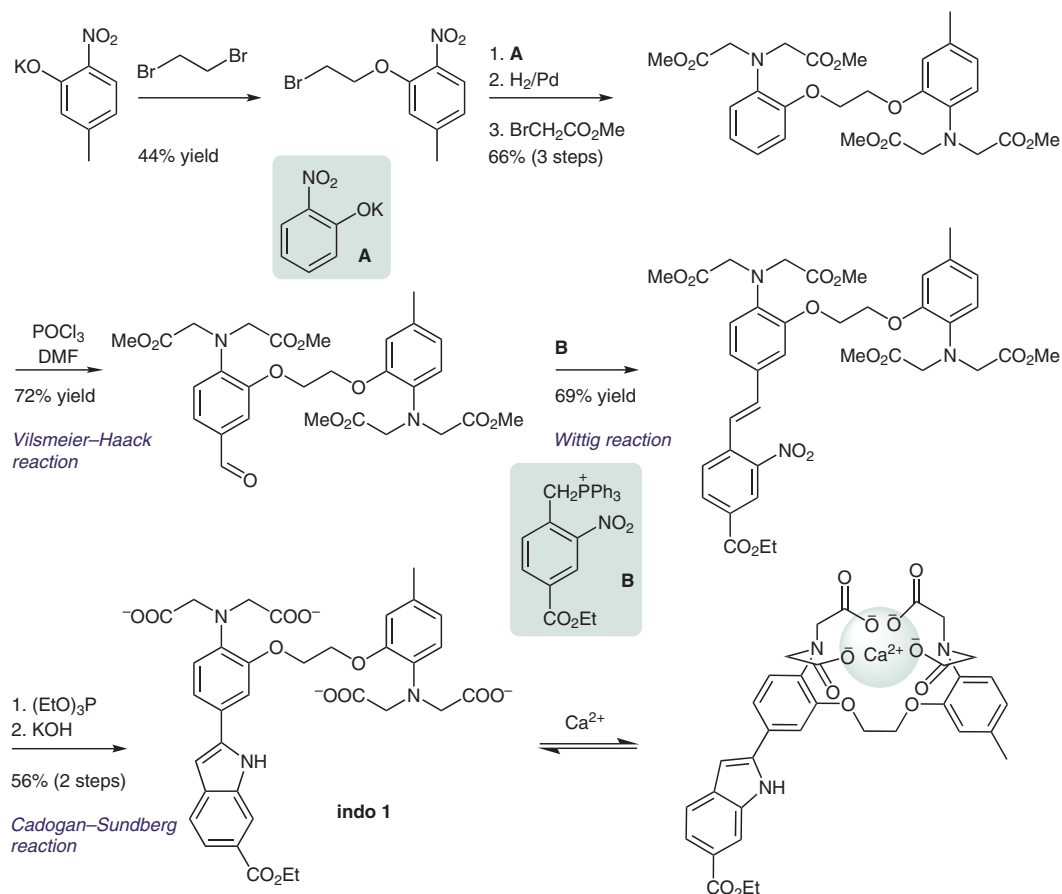


G. GRYNKIEWICZ, M. POENIE, R. Y. TSIEN* (UNIVERSITY OF CALIFORNIA, BERKELEY, USA)

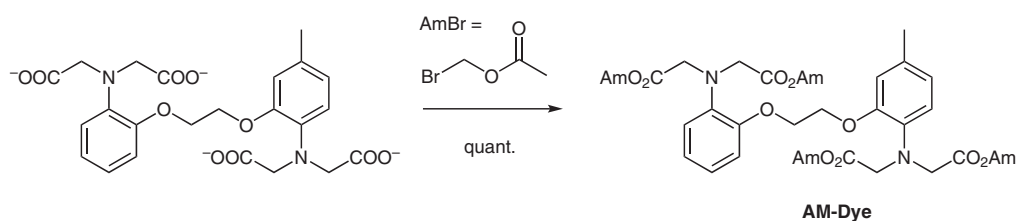
A New Generation of Ca^{2+} Indicators with Greatly Improved Fluorescence Properties

J. Biol. Chem. **1985**, *260*, 3440–3450.

Development of Fluorescent Ca^{2+} Sensors



Development of acetoxymethylester-dyes (AM-Dyes):



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.

SYNFACTS Contributors: Dirk Trauner, Johannes Morstein
Synfacts 2019, 15(06), 0681 Published online: 20.05.2019
DOI: 10.1055/s-0037-1612573; Reg-No.: T04419SF

2019 © Georg Thieme Verlag Stuttgart · New York

Category

Chemistry in
Medicine and
Biology

Key words

fluorophores

probes

calcium cation

Synfact
Classic

This document was downloaded for personal use only. Unauthorized distribution is strictly prohibited.