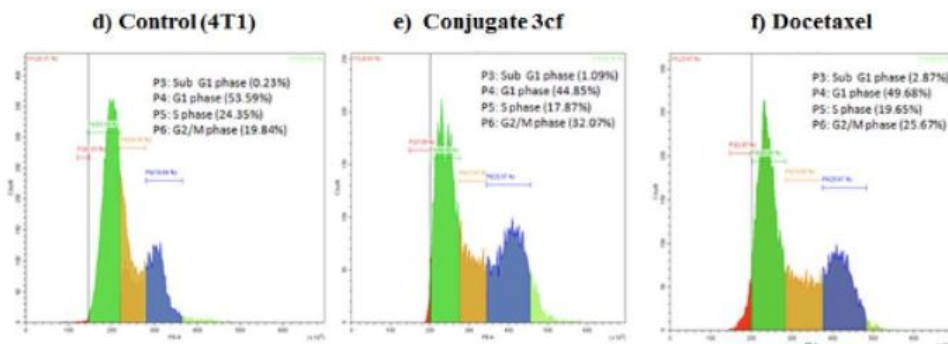


GRANTED

(IN456869)

## Synthesis of new triazolyl linked bile acid aryl ketones



## NEED

Breast cancer causes nearly 685,000 deaths globally each year. Over 30% of patients face relapse due to ineffective drug targeting. What if tumor cells could be selectively destroyed using bile acid-inspired molecules—without harming healthy tissues?

## TECHNOLOGY OVERVIEW

This invention discloses C-24 functionalized bile acid derivatives with a triazolyl and keto-aryl group that show potent cytotoxicity against human and murine breast cancer cells. Synthesized through a copper-catalyzed multicomponent reaction, these compounds are formulated into pharmaceutical compositions for advanced cancer therapy.

## TECHNOLOGY KEY FEATURES

Bile acid scaffold, C-24 site functionalization, selective cytotoxicity against breast cancer cells, microwave-assisted synthesis, copper-catalyzed multicomponent process, pharmaceutical formulation-ready, broad R-group tuning for diverse analogues, works on human and murine cells, non-invasive delivery potential.

[Read more here](#)

## MARKET ANALYSIS

India's oncology drug market is growing at 12.6% CAGR; global oncology therapeutics market projected to reach \$393B by 2033 at 11.3% CAGR. Rising cancer prevalence, targeted therapy demand, and biotech R&D drive adoption. (Sources: ResearchAndMarkets 2024, Statista 2024)

## Target Industries

1) Oncology drug developers focused on small-molecule innovation; 2) Pharmaceutical R&D firms targeting breast cancer therapeutics; 3) Precision medicine ventures advancing bile acid-based drug delivery.

## AT A GLANCE

- SDG 3 (Good Health), SDG 9 (Industry, Innovation), SDG 12 (Responsible Consumption)

Technology is available for licensing/ co-development.

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