



# Simplified Analogs of (-)-Englerin A for Renal Cancer Treatment

BYU #2017-027

## DESCRIPTION

Researchers at BYU developed a simplified synthetic compound based on a novel organic compound called (-)-englerin A, a molecule isolated from an African plant, that could potentially treat renal (kidney) cancer. The synthesis of the compound, des-CH<sub>2</sub> englerin A (DME), reduces the number of steps, allows for placement of key functionality, and analog development using a simplified core guaiane structure.

## PROBLEM SOLVED

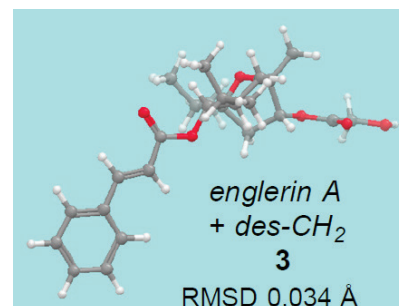
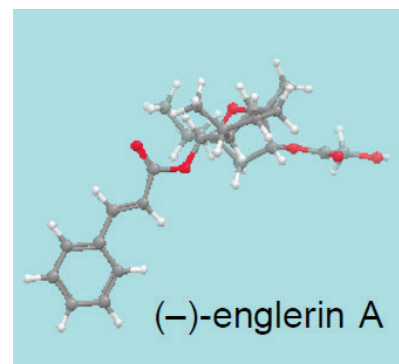
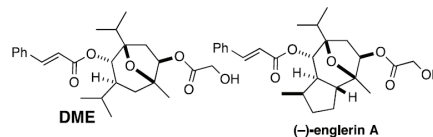
Despite the latest improvements in cancer treatment, renal cancer remains a problematic disease with high mortality rates. New available treatments have improved the condition reducing tumor size and metastases, but they have not demonstrated improved patient survival. Studies have shown (-)-englerin A to be a potent inhibitor of renal cancer cells. However, total syntheses that have been reported by other researchers (18 to 25 step range) are impractical for large-scale production. The current invention embodies a strategic modification that has simplified the structure of (-)-englerin A, from 33 steps to 9 steps, allowing for more efficient mass production of the compound while maintaining its potent anti-cancer activity. With further development, this invention could potentially address the mortality issue in renal cancer in a very accessible way.

## KEY ADVANTAGES

- » *Unique activity as a new mechanism for killing cancer cells*
- » *Non-toxic to normal cells*
- » *Easier production*

## APPLICATIONS

As an oral or intravenous treatment, a drug using this technology could provide patients suffering from renal cancer with an effective and accessible treatment alternative to chemo therapy.



**Offer:**  
License  
Exclusive  
World Wide  
All Fields of Use

**IP Status:**  
Patent Pending



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