

## **Plasma treatment for dimerization of epigallocatechin gallate (EGCG) without in change stereochemistry**

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Epigallocatechin gallate (EGCG) is the most abundant ingredient in green tea leaves and is known to have potent pharmacological effects responsible for a number of health benefits, especially antiangiogenic, antidiabetic, hypocholesterolemic, antibacterial, and antiaging properties. Recently, many studies on the effect of its structural modification using various treatment methods have been conducted because EGCG is very unstable under oxidizing conditions. Low-temperature plasma technology has been attempted for structural modification and dimerization of EGCG was successfully achieved without changes in stereochemistry. For the plasma treatment, a DBD apparatus and a high voltage power supply was used to generate plasma in the process chamber. The material of the chamber is a Teflon with relatively low chemical reactivity, and the DBD apparatus is composed of four surface DBD (sDBD) electrodes. The high voltage was applied to the sDBD electrodes using an arbitrary waveform generator and the high voltage power amplifier. In this study, we will introduce plasma processing apparatus, process method, and its characteristics. And the results of quantitative analysis of new compounds according to and operating conditions will be described.