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(54) **SEMICONDUCTOR STRUCTURES AND
MANUFACTURING METHODS THEREOF**

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ABSTRACT

A semiconductor structure and a manufacturing method thereof are provided. The method includes: providing a patterned substrate, where the patterned substrate includes columnar structures; providing second inhibition layers, where the second inhibition layers are respectively located between two adjacent columnar structures of the columnar structures, and upper surfaces of the columnar structures are exposed; providing a light-emitting structure layer on the upper surface of each of the columnar structures; and removing the patterned substrate, to obtain holes at regions corresponding to the columnar structures, where the holes are respectively located between two adjacent second inhibition layers of the second inhibition layers, and the holes correspond to the light-emitting structure layers respectively. The manufacturing method provided by the present disclosure optimizes the manufacturing process and realizes full-color LED.

