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(54) **DISPLAY SUBSTRATE AND PREPARATION METHOD THEREOF, AND DISPLAY DEVICE**

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(57) **ABSTRACT**

Provided are a display substrate and a preparation method thereof, and a display device. A display region and a binding region located at one side of the display region are comprised. The display region comprises a driving structure layer, an organic insulating layer disposed on the driving structure layer and a light-emitting element disposed on the organic insulating layer, the driving structure layer comprises a pixel driving circuit, and the light-emitting element is connected with the pixel driving circuit. The binding region comprises a binding structure layer, an organic insulating layer and an isolation dam disposed on the binding structure layer, and an inorganic encapsulation layer disposed on the organic insulating layer and the isolation dam, the binding structure layer comprises a power line connected with the pixel driving circuit; at least one isolation groove is disposed on the organic insulating layer of the binding region.