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(54) **SYSTEMS AND METHODS FOR ORGANIC SEMICONDUCTOR DEVICES WITH SPUTTERED CONTACT LAYERS**

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(57) **ABSTRACT**

Systems and methods for organic semiconductor devices with sputtered contact layers are provided. In one embodiment, an organic semiconductor device comprises: a first contact layer comprising a first sputter-deposited transparent conducting oxide; an electron transport layer interfacing with the first contact layer; a second contact layer comprising a second sputter-deposited transparent conducting oxide; a hole transport layer interfacing with the second contact layer; and an organic semiconductor active layer having a first side facing the electron transport layer and an opposing second side facing the hole transport layer; wherein either the electron transport layer or the hole transport layer comprises a buffering transport layer.