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(54) **BACKFILLED, SELF-ASSEMBLED
MONOLAYERS AND METHODS OF MAKING
SAME**

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See application file for complete search history.

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(57) **ABSTRACT**

Backfilled, self-assembled monolayers and methods of making the same are disclosed. The self-assembled monolayer comprises at least one functional organosilane species and a substantially random dispersion of at least one backfilling organosilane species among the functional organosilane species, wherein the functional and backfilling organosilane species have been sequentially deposited on a substrate. The method comprises depositing sequentially a first organosilane species followed by a backfilling organosilane species, and employing a relaxation agent before or during deposition of the backfilling organosilane species, wherein the first and backfilling organosilane species are substantially randomly dispersed on a substrate.

32 Claims, 3 Drawing Sheets