US 20230230811A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2023/0230811 A1**

Yu et al. (43) **Pub. Date: Jul. 20, 2023**

(54) **SURFACE MODIFICATION FOR METAL-CONTAINING PHOTORESIST DEPOSITION**

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(21) Appl. No.: **17/998,354**

(22) PCT Filed: **May 25, 2021**

(86) PCT No.: **PCT/US2021/034019**

§ 371 (c)(1),
(2) Date: **Nov. 9, 2022**

Related U.S. Application Data

(60) Provisional application No. 62/705,335, filed on Jun. 22, 2020.

Publication Classification

(51) **Int. Cl.**

H01J 37/32	(2006.01)
H01L 21/027	(2006.01)
H01L 21/033	(2006.01)
G03F 7/09	(2006.01)
G03F 7/004	(2006.01)
G03F 7/16	(2006.01)
G03F 7/11	(2006.01)

(52) **U.S. Cl.**

CPC .. ***H01J 37/32449*** (2013.01); ***H01J 37/32357*** (2013.01); ***H01L 21/0274*** (2013.01); ***H01L 21/0337*** (2013.01); ***H01L 21/0332*** (2013.01); ***G03F 7/094*** (2013.01); ***G03F 7/0042*** (2013.01); ***G03F 7/167*** (2013.01); ***G03F 7/11*** (2013.01); *H01J 2237/3328* (2013.01); *H01J 37/32816* (2013.01); *H01J 37/321* (2013.01); *H01J 37/32899* (2013.01)

(57) **ABSTRACT**

Techniques described herein relate to methods, apparatus, and systems for promoting adhesion between a substrate and a metal-containing photoresist. For instance, the method may include receiving the substrate in a reaction chamber, the substrate having a first material exposed on its surface, the first material including a silicon-based material and/or a carbon-based material; generating a plasma from a plasma generation gas source that is substantially free of silicon, where the plasma includes chemical functional groups; exposing the substrate to the plasma to modify the surface of the substrate by forming bonds between the first material and chemical functional groups from the plasma; and depositing the metal-containing photoresist on the modified surface of the substrate, where the bonds between the first material and the chemical functional groups promote adhesion between the substrate and the metal-containing photoresist.