US 20240237519A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2024/0237519 A1**

**YOO et al.** (43) **Pub. Date: Jul. 11, 2024**

(54) **ORGANIC COMPOUND, ORGANIC LIGHT EMITTING DIODE AND ORGANIC LIGHT EMITTING DEVICE HAVING THE COMPOUND**

(71) Applicants: **LG Display Co., Ltd.**, Seoul (KR); **LT Materials Co., Ltd.**, Yongin-si (KR)

(72) Inventors: **Seon-Keun YOO**, Paju-si (KR); **Young-Jun YU**, Paju-si (KR); **Seong-Su JEON**, Paju-si (KR); **Sang-Beom KIM**, Paju-si (KR); **Woo-Sam KIM**, Yongin-si (KR); **Hyung-Keun JANG**, Yongin-si (KR); **Dae-Hyuk CHOI**, Yongin-si (KR); **Dong-Jun KIM**, Yongin-si (KR); **Young-Seok NO**, Yongin-si (KR); **Hyun-Joo LEE**, Yongin-si (KR); **Geon-Yu PARK**, Yongin-si (KR); **Sang-Hun AHN**, Yongin-si (KR)

(21) Appl. No.: **18/489,717**

(22) Filed: **Oct. 18, 2023**

(30) **Foreign Application Priority Data**

Dec. 22, 2022 (KR) ..... 10-2022-0181917

**Publication Classification**

(51) **Int. Cl.**

***H10K 85/60*** (2006.01)
***C07D 417/14*** (2006.01)
***C09K 11/06*** (2006.01)

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

CPC ..... ***H10K 85/654*** (2023.02); ***C07D 417/14*** (2013.01); ***C09K 11/06*** (2013.01); ***H10K 85/657*** (2023.02); ***H10K 85/6572*** (2023.02); ***H10K 85/6574*** (2023.02); *H10K 50/12* (2023.02)

(57) **ABSTRACT**

The present disclosure relates to an organic compound including at least one fused hetero aromatic moiety with at least one nitrogen atom linked to a triazine moiety directly or through a linking group and a benzothiazole moiety linked to the triazine moiety, an organic light emitting diode and an organic light emitting device having the organic compound. The organic light emitting diode and the organic light emitting device where an emissive layer includes the organic compound have beneficial luminous efficiency and luminous lifespan.

D1