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(54) **ORGANIC ELECTROLUMINESCENT
MATERIALS AND DEVICES**

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(57) **ABSTRACT**

Provided are compounds comprising a Si or Ge atom to which three monocyclic or fused polycyclic ring systems comprised of one or more 5-membered or 6-membered rings as well as one selected from the group consisting of B, BR, Al, Ga, N, P, As, Sb, Bi, P=X', As=X', Sb=X', and Bi=X' are attached. Also provided are formulations comprising these compounds. Further provided are organic light emitting diodes (OLEDs) and related consumer products that utilize these compounds.

