Created by Robert L. Green (Alabama State University, rgreen@alasu.edu), Matthew R. Buck (United States Naval Academy), Viridiana E. Herrera (Lincoln University), and Denise Femia (La Salle University) and posted on VIPEr (www.ionicviper.org) on 30 JUN 2023. Copyright 2023. This work is licensed under the Creative Commons Attribution Non-commercial Share Alike License. To view a copy of this license visit <https://creativecommons.org/licenses/by-nc-sa/4.0/>

**1FLO of “Air-Stable Thermoluminescent Carbodicarbene-Borafluorenium Ions” (Figure 4b and 4c)**

Please complete these guiding questions to *Journal of the American Chemical Society* **2022**, *144*, 590-598. <https://doi.org/10.1021/jacs.1c11861> Figure 4b and 4c.

1. Background Question: What is the significance of the CIE chromaticity diagram pertaining to photoluminescence? Please refer to the following link: <http://hyperphysics.phy-astr.gsu.edu/hbase/vision/ciecal.html#c1>
2. What does “red shifting” mean?
3. What phenomenon is occurring between the ground state and the TICT state in the molecule to cause the observed “red shifting” shown in the CIE chromaticity diagram?
4. What are the potential applications for the photoluminescence emission of the CDC-borafluorenium ions?