

# Electrochemiluminescence: from enantioselective discrimination to photo-induced emission on semiconductors

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In presenza in Sala Conferenze Orio Zanetto  
 ed in video conferenza al link <https://zoom.us/j/84477092344>  
 Passcode: seminar1

## Abstract

Electrochemiluminescence (ECL) is a light-emitting process and a powerful technique in analytical chemistry. This phenomenon is induced by the excited state of a luminophore, which is generated by an electrochemical reaction at an electrode surface.[1] In a first part, we will present the possibility to detect selectively the two single enantiomers of model dyes by circularly polarized-electrochemiluminescence (CP-ECL). This new aspect of the ECL emission combines the chiral information intrinsic to circularly polarized luminescence methods with an electrogeneration of the excited state. [2-3]. In a second part, new ECL approaches such as photo-induced ECL based on illuminated semiconductors will be presented to extend the performances of ECL (bio)sensing and photo-addressable systems [4-6].

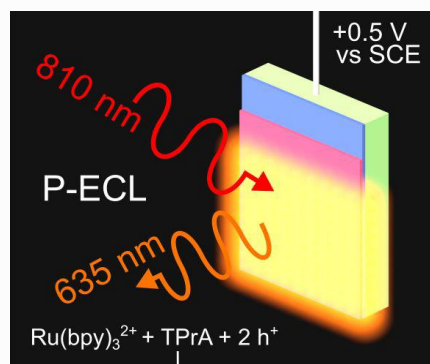


Figure 1. Scheme showing the photo-induced ECL phenomenon.

## REFERENCES

1. A. J. Bard. *Electrogenerated Chemiluminescence*. M. Dekker. 2004
2. *Angew. Chem. Int. Ed.* 2019, 58, 6952
3. *Chem. Commun.*, 2020, 56, 5989
4. *J. Am. Chem. Soc.* 2019, 141, 13013
5. *Angew. Chem. Int. Ed.* 2020, 59, 15157
6. *Angew. Chem. Int. Ed.* **2022**, 61, DOI: 10.1002/anie.202201865.

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