

Synthesis of Aniline Functionalized Ruthenium Dyes for Using Visible Light Water Spitting with Solar Cell

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Dye-sensitized solar cells (DSCs) provide a technically and economically credible alternative for increasing energy demands and concerns over global warming. Dye-sensitized solar cells (DSCs) based on the ruthenium(II) dyes have high thermal and chemical stability [1]. Dye-sensitized solar cells (DSCs) based on the ruthenium(II) dyes have been shown to be very efficient candidates for photovoltaic technology due to their high stability and outstanding redox properties and good response to natural visible sunlight [2]. Ruthenium(II) dyes has to interact with the semiconductor, and thus a range of attaching functionalities have been screened [3] thus we will use aniline functionalized ruthenium (5) dyes for using visible light water spitting with solar cell in our project.

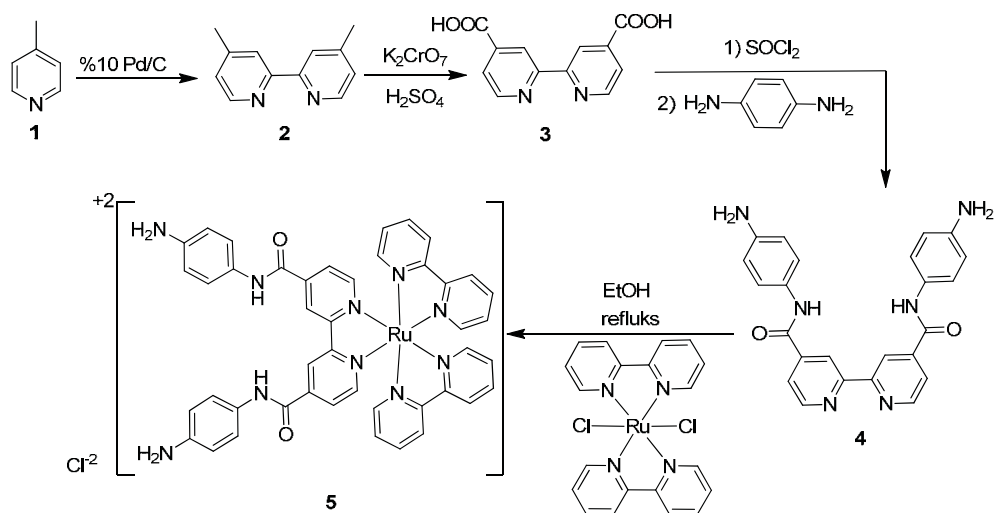


Figure 1. Synthesis of Aniline Functionalized Ruthenium

- [1] B. O'Regan and M. Gratzel, *Nature*, 353, 737-740, (1991).
 [2] B. Yoo et al., *J. Mater. Chem.*, 20, 4392-4398, (2010).
 [3] V. Aranyos et al., *Sol. Energ. Mat. Sol. C*, 64, 97-114, (2000).