

# Fluorescence studies of 3-amino-4-phenylquinolin-2-one in solution and in lipid membranes

A. S. Abreu<sup>a,b</sup>, E. M. S. Castanheira<sup>a</sup>, B. F. Hermenegildo<sup>a</sup>, M.-J.R.P. Queiroz<sup>b</sup>, P.M.T. Ferreira<sup>b</sup>

<sup>a</sup>Centro de Física (CFUM) and <sup>b</sup>Centro de Química (CQ/UM), Universidade do Minho, Campus de Gualtar, 4710-057 Braga, Portugal  
[anabreu@quimica.uminho.pt](mailto:anabreu@quimica.uminho.pt)

Our research group has been interested in the synthesis and in the photophysical behavior in solution and in lipid membranes of new fluorescent heterocyclic compounds that may be used as probes [1]. In this work, the photophysical properties (absorption and fluorescence) of the 3-amino-4-phenylquinolin-2-one **1** (Fig. 1), previously synthesized by us [2], were studied. The fluorescence of compound **1** in solution (Fig. 2) and in lipid membranes of DPPC (dipalmitoyl phosphatidylcholine), egg-yolk phosphatidylcholine (Egg-PC) and dipalmitoyl phosphatidylglycerol (DPPG) indicates that this compound may be useful as a fluorescent probe for biological systems.

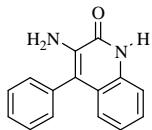


Figure 1. Structure of compound **1** (3-amino-4-phenylquinolin-2-one).

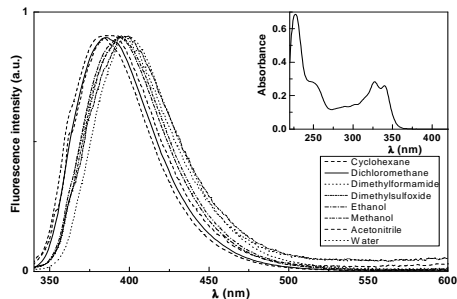


Figure 2. Normalized fluorescence emission spectra of compound **1** (Inset: absorption spectrum of **1** in CH<sub>2</sub>Cl<sub>2</sub>)

**Acknowledgements:** FCT-Portugal and FEDER/COMPETE through CFUM, CQ/UM, Project PTDC/QUI/81238/2006. A.S. Abreu also thanks her post-doctoral grant (SFRH/BPD/24548/2005) to FCT, POPH-QREN, FSE.

**References:** [1] E.M.S. Castanheira, A.S. Abreu, M.S.D. Carvalho, M.-J.R.P. Queiroz, P.M.T. Ferreira *J. Fluorescence* 19 (2009) 501-509. [2] M.-J.R.P. Queiroz, A.S. Abreu, R.C. Calhelha, M.S.D. Carvalho, P.M.T. Ferreira *Tetrahedron* 64 (2008) 5139-5146.