



MIREA - Russian Technological University
Institute of Fine Chemical Technologies named after M.V. Lomonosov

Spiropyran derivative is potential agonists of the GPR40 receptor

Bakholdina A.G.^{1*}, Khodonov A.A.², Demina O.V.², Belikov N.E.², Lukin A.Yu.¹

¹ – MIREA – Russian Technological University, Moscow, Russia

² – N.M. Emanuel Institute of Biochemical Physics RAS, Moscow, Russia

* *bahushaaa@mail.ru*

Moscow 2021

Photochromism of spiropyrans

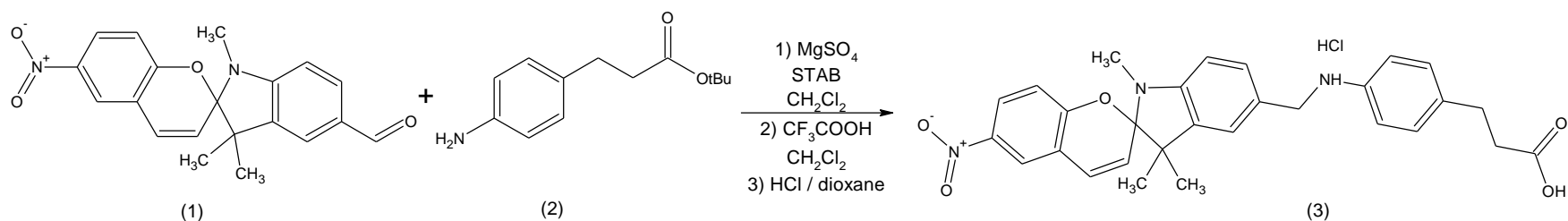
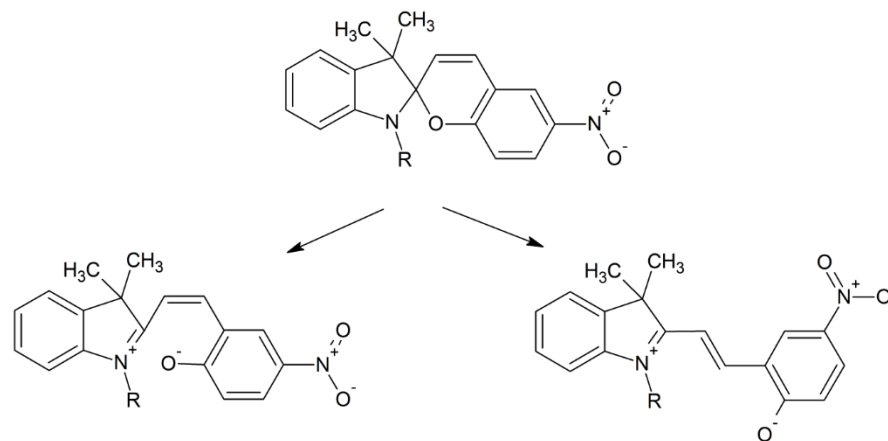
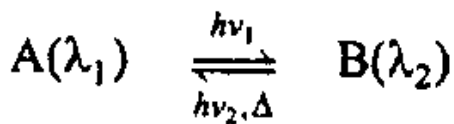
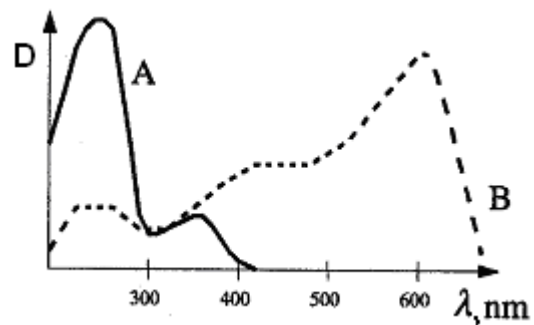
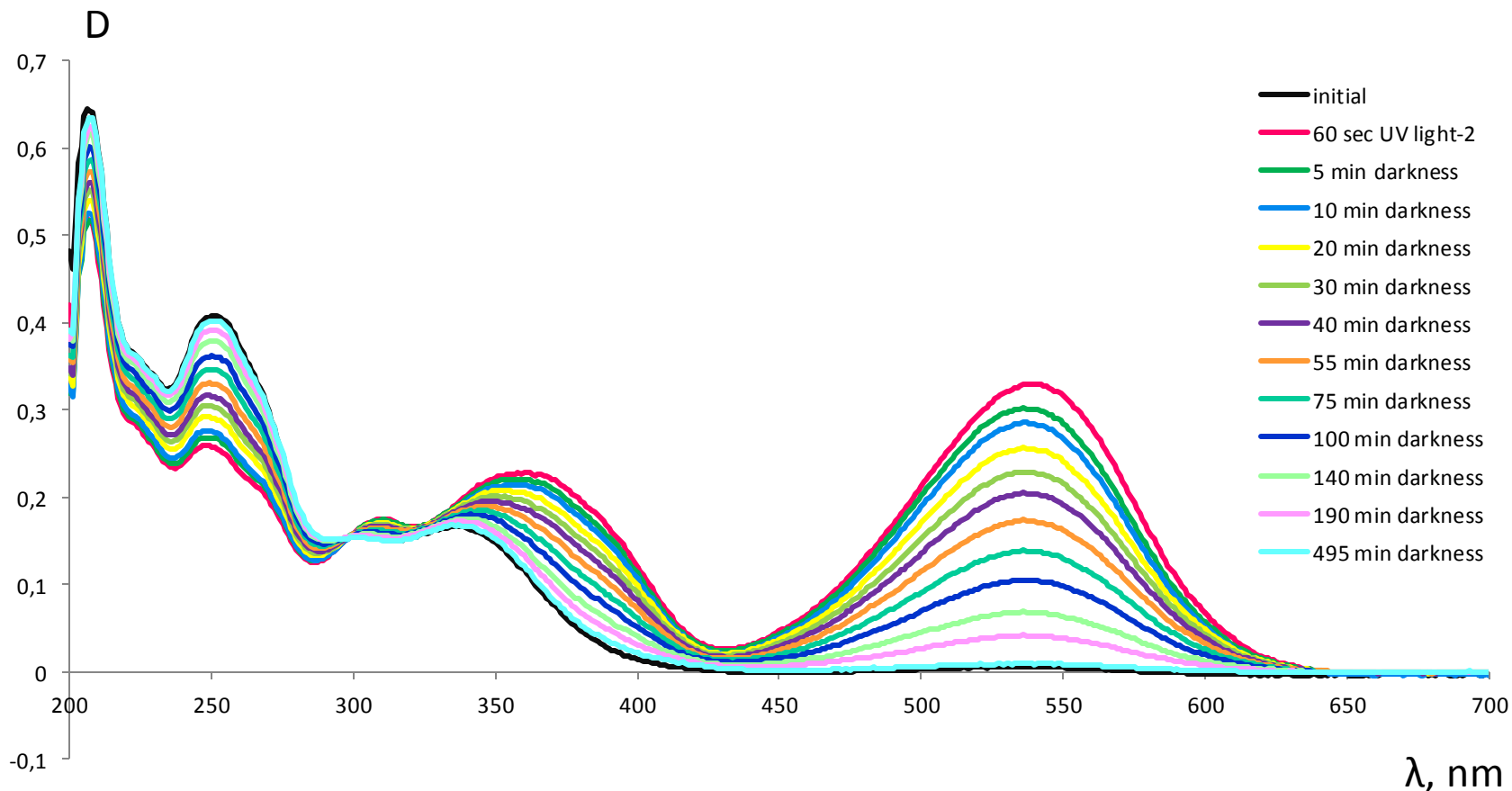


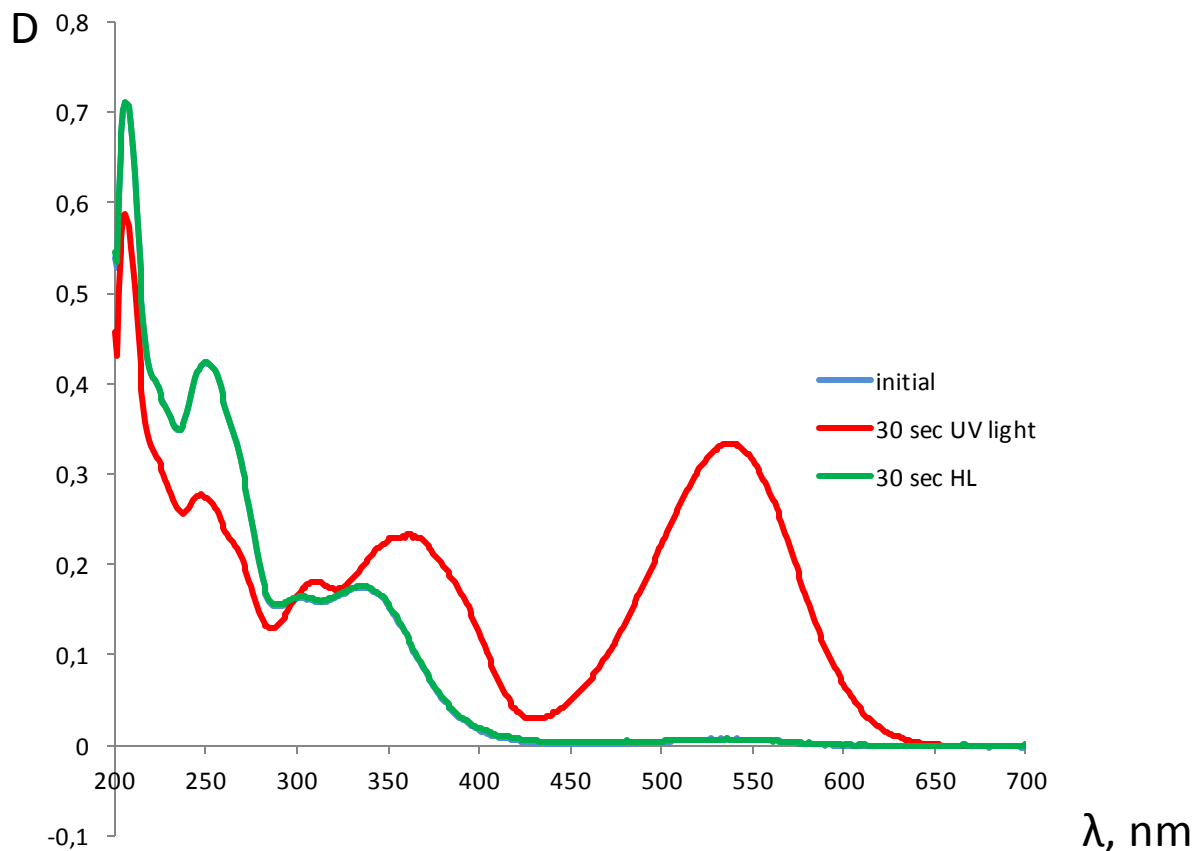
Fig. 1. Synthesis scheme for compound 3-(4-[[1',3',3'-trimethyl-6-nitro-1',3'-dihydrospiro[chromene-2,2'-indol]-5'-yl)methyl]amino} phenyl)propanoic acid hydrochloride (3).

Preliminary studies of photochromic behavior and spectral characteristics of 3- (4 -{[(1', 3', 3'-trimethyl-6-nitro-1', 3'-dihydrospiro[chromene-2,2'-indol] - 5'-yl) methyl]amino}phenyl)propanoic acid hydrochloride (3)



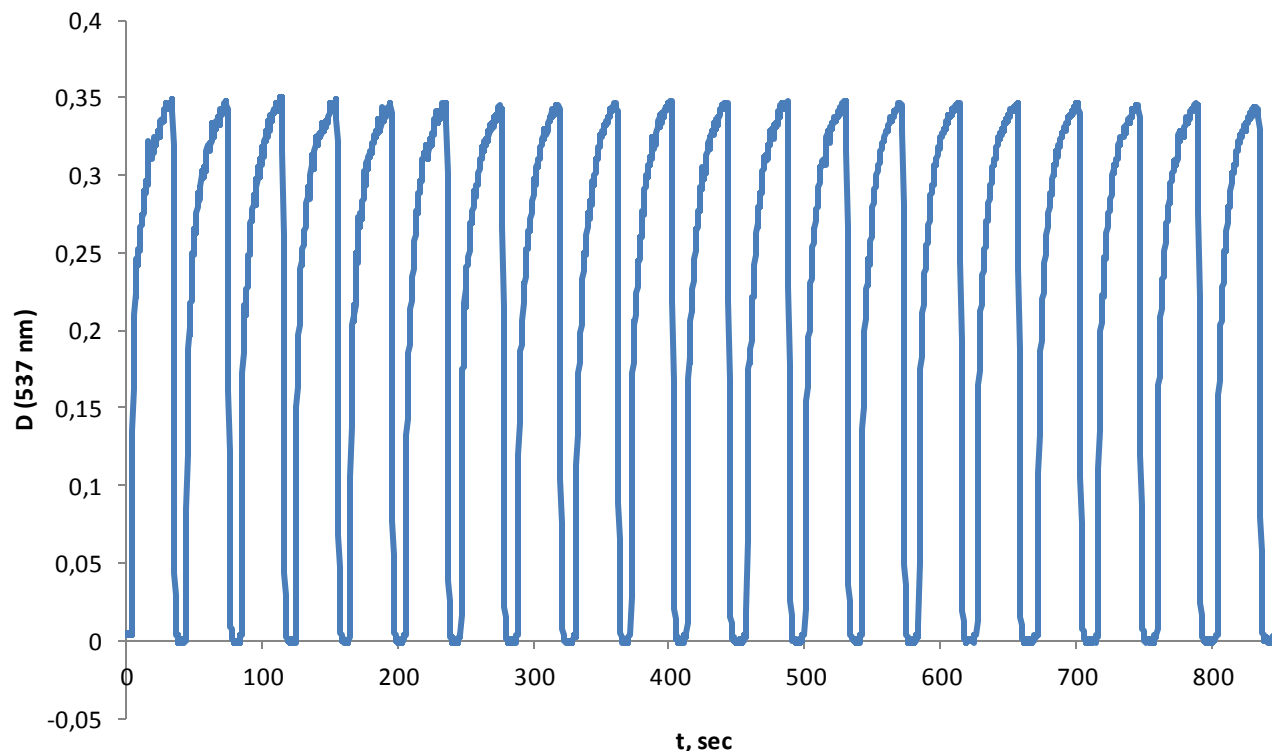
Absorption spectra of compound (3) in ethanol solution, 20 °C. The studies were carried out using a Shimadzu UV-2140 PC spectrophotometer (Japan).

Preliminary studies of photochromic behavior and spectral characteristics of 3- (4 -{[(1',3',3'-trimethyl-6-nitro-1',3'-dihydrospiro[chromene-2,2'-indol] - 5'-yl) methyl]amino}phenyl)propanoic acid hydrochloride (**3**)



Comparing spectral specification of compound (**3**) under UV irradiation and subsequent irradiation with HL

Preliminary studies of photochromic behavior and spectral characteristics of 3- (4 -{[(1', 3', 3'-trimethyl-6-nitro-1', 3'-dihydrospiro[chromene-2,2'-indol] - 5'-yl) methyl]amino}phenyl)propanoic acid hydrochloride (3)



Kinetics of photocoloring/photobleaching of compound (3) in ethanol solution, obtained at 350 nm, 20 cycles, 20 °C. The studies were carried out using an HR2000 + spectrophotometer module from Ocean Optics (USA).

Thanks for attention!