Supplementary Material

New Schiff bases from 2,5-bis-(butylsulfanyl)-2,3-dihydro-4H-pyran-2-carbaldehyde

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Experimental Section

General. The $^1$H, $^{13}$C and $^{15}$N NMR spectra were recorded in CDCl$_3$ solutions at room temperature on Bruker DPX-400 and AV-400 spectrometers (400.13, 100.61 and 40.56 MHz, respectively). $^1$H, $^{13}$C and $^{15}$N Chemical shifts (δ in ppm) were measured with accuracy of 0.01, 0.02 and 0.1 ppm, respectively, and referred to TMS ($^1$H, $^{13}$C) and nitromethane ($^{15}$N). Chromato-mass spectrometry analysis was performed on a Shimadzu GCMS-QP5050A mass spectrometer (El ionization, 70 eV). The IR spectra of the compounds were recorded on a Varian 3100 FT-IR spectrometer with the sample in thin film. Elemental analysis was performed on a Thermo Finnigan Flash series 1112 Elemental analyzer.

General synthesis of compounds 3a-c, 3e-g:

Compounds 3a-c, e: To the solution of 1 (1 mmol, 0.288 g) of compound (1) in MeOH or THF was added 1 mmol of amine (2a-c) or amino acid 2e and the mixture was stirred for 1-6 h at room temperature or reflux. The reaction mixture was dried with MgSO$_4$, the precipitate was filtered off and the solvent was removed in vacuo. The desired imine was obtained as an oil or powder.

Compounds 3f, g: To the solution of 1 (1 mmol, 0.288 g) of compound (1) in MeOH was added 1 mmol of amino acid methyl ester hydrochloride (2f, g) and NaOH (1 mmol) and the mixture was stirred for 4 h at room temperature. The reaction mixture was dried with MgSO$_4$, the precipitate was filtered off and the solvent was removed in vacuum. The desired imine was obtained as an oil.