Synthesis and Evaluation of the (*S*)-BINAM Derivatives as Fluorescent Enantioselective Detectors

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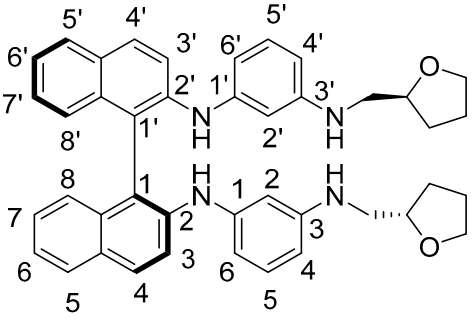
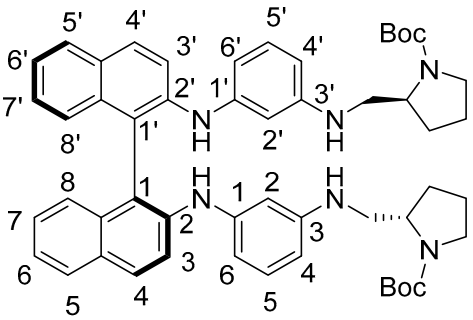
Supporting Information



7

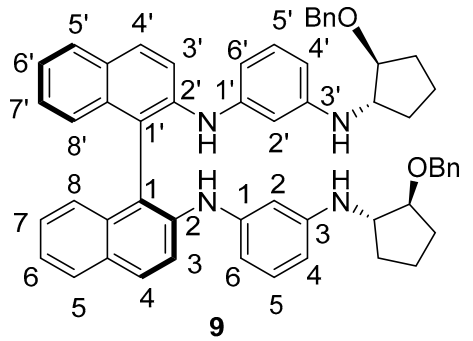
***N1,N1′*-((*S*)-[1,1'-binaphthalene]-2,2'-diyl)bis(*N*3-(((S)-tetrahydrofuran-2yl)methyl)benzene-1,3-diamine) (7).**



8

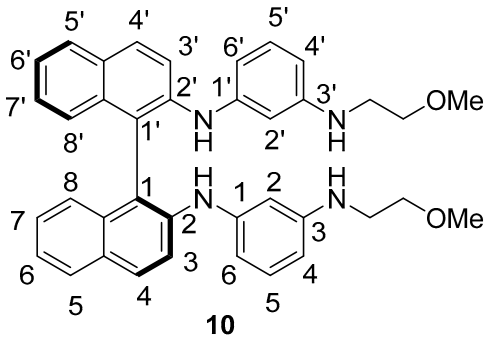
Di-*tert*-butyl 2,2'-((((((*S*)-[1,1'-binaphthalene]-2,2'-diyl)bis(azanediyl))bis(3,1-phenylene)bis.

(azanediyl))bis(methylene))(2*S*,2'*S*)-bis(pyrrolidine-1-carboxylate) (8).



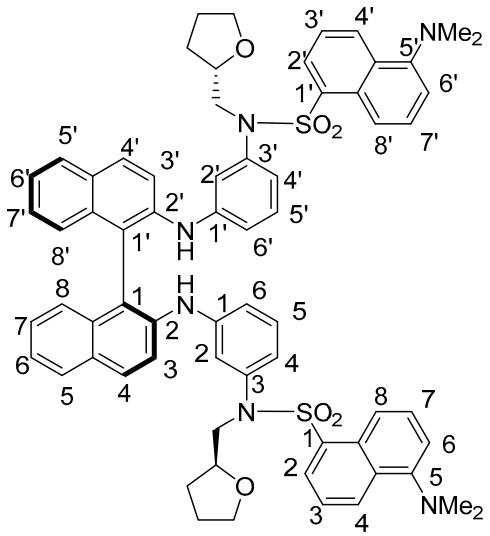
9

***N1,N1′*-((*S*)-[1,1'-binaphthalene]-2,2'-diyl)bis(*N*3-((1*S*,2*S*)-2-(benzyloxy)cyclopentyl)benzene-1,3-diamine) (9).**



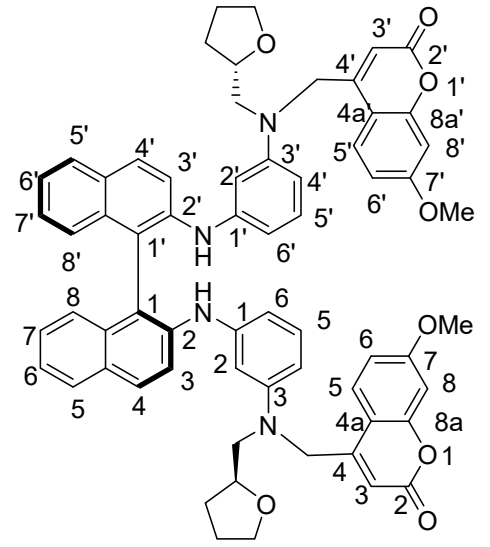
10

(*S*)-N^1,$N^{1'}$-([1,1'-binaphthalene]-2,2'-diyl)bis(N^3-(2-methoxyethyl)benzene-1,3-diamine) (10).



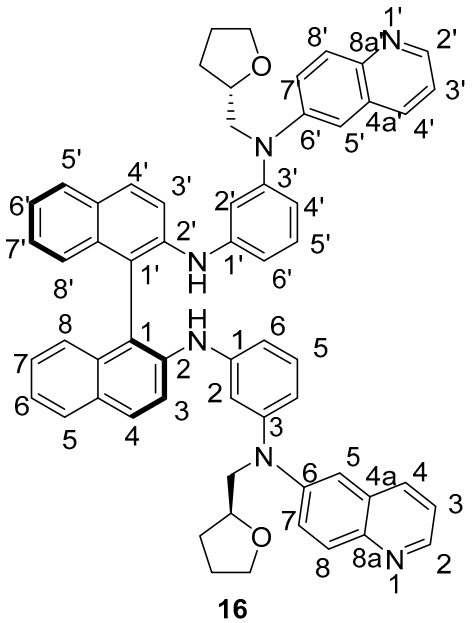
14

5-(Dimethylamino)-*N*-(3-(((*S*)-2'-((3-((5-(dimethylamino)-*N*-(((*S*)-tetrahydrofuran-2-yl)methyl)naphthalene)-1-sulfonamido)phenyl)amino)-[1,1'-binaphthalen]-2-yl)amino)phenyl)-*N*-(((*S*)-tetrahydrofuran-2-yl)methyl)naphthalene-1-sulfonamide (14).



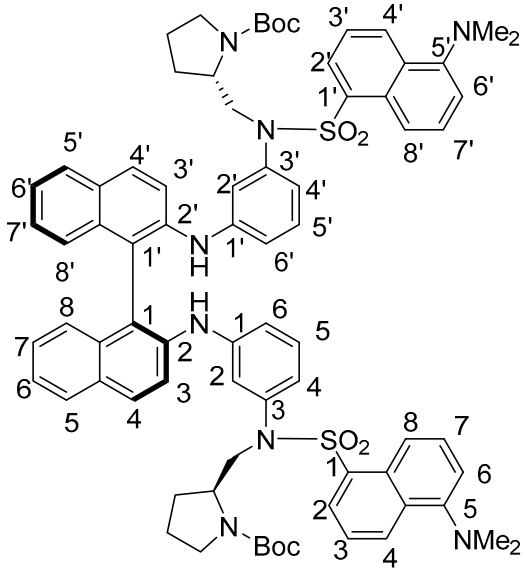
15

4,4'-((((((*S*)-[1,1'-binaphthalene]-2,2'-diyl)bis(azanediyl))bis(3,1-phenylene))bis((((*S*)-tetrahydrofuran-2-yl)methyl)azanediyl))bis(methylene))bis(7-methoxy-2H-chromen-2-one) (15).



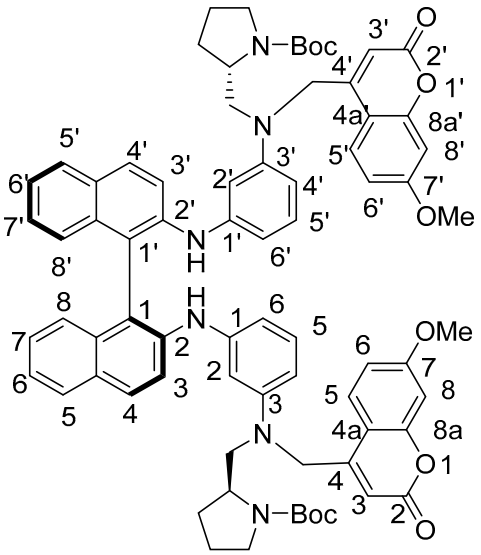
16

***N*¹,*N*¹′-((*S*)-[1,1'-binaphthalene]-2,2'-diyl)bis(*N*³-(quinolin-6-yl)-*N*³-(((*S*)-tetrahydrofuran-2-yl)methyl)benzene-1,3-diamine) (16).**



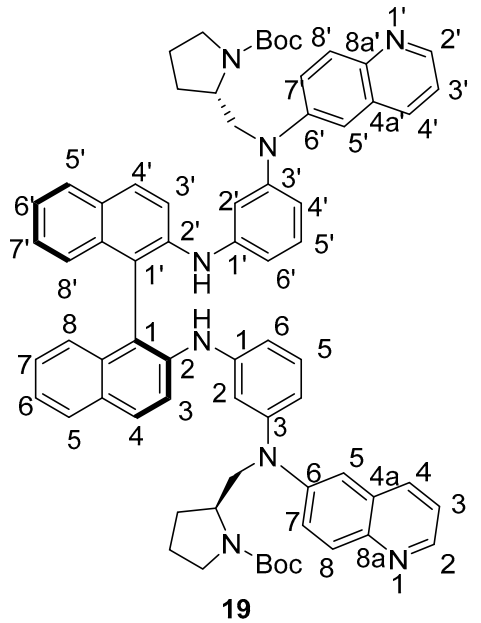
17

Di-*tert*-butyl-2,2'-((((((*S*)-[1,1'-binaphthalene]-2,2'-diyl)bis(azanediyl))bis(3,1-phenylene))bis(((5-(dimethylamino)naphthalen-1-yl)sulfonyl)azanediyl))bis(methylene))-(2*S*,2'*S*)-bis(pyrrolidine-1-carboxylate) (17).



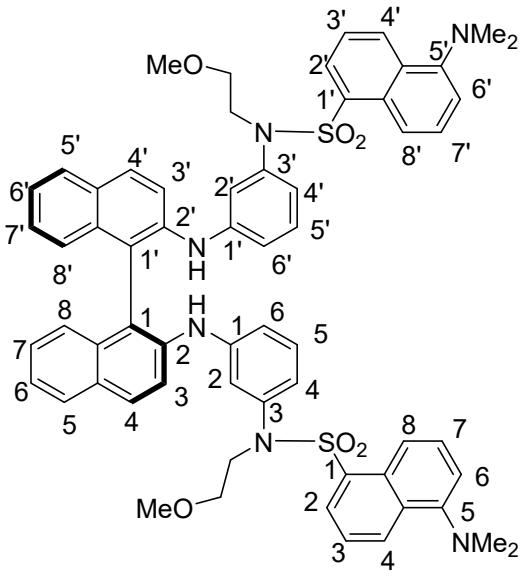
18

Di-*tert*-butyl-2,2'-((((((*S*)-[1,1'-binaphthalene]-2,2'-diyl)bis(azanediyl))bis(3,1-phenylene))bis(((7-methoxy-2-oxo-2H-chromen-4-yl)methyl)azanediyl))-bis(methylene))(2*S*,2'*S*)-bis(pyrrolidine-1-carboxylate) (18).



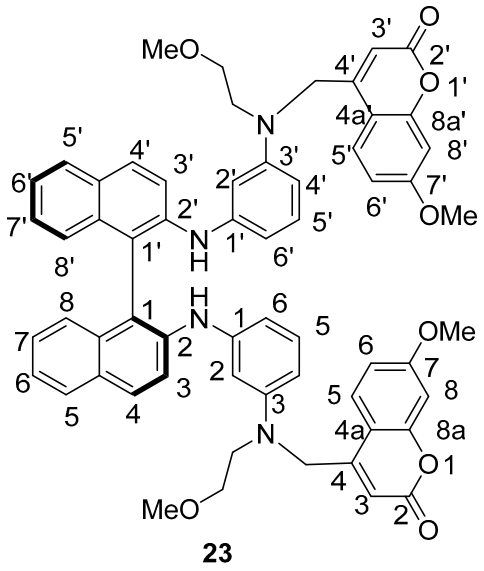
19

Di-*tert*-butyl-2,2'-((((((*S*)-[1,1'-binaphthalene]-2,2'-diyl)bis(azanediyl))bis(3,1-phenylene))bis(quinolin-6-ylazanediyl))bis(methylene))(2*S*,2'*S*)-bis(pyrrolidine-1-carboxylate) (19).



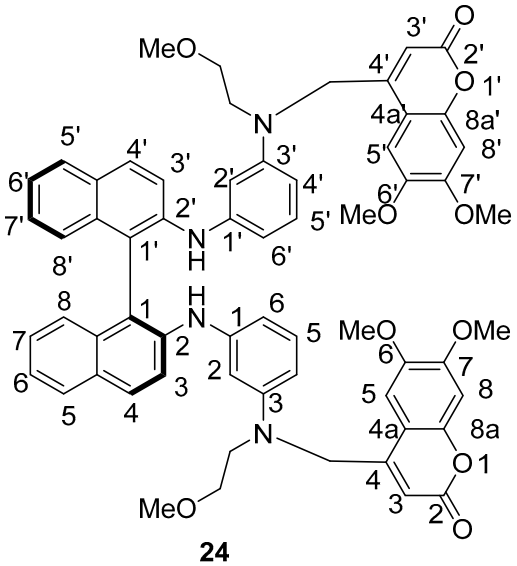
22

(*S*)-*N*,*N*′-(([1,1'-binaphthalene]-2,2'-diylbis(azanediyl))bis(3,1-phenylene))bis(5-(dimethylamino)-*N*-(2-methoxyethyl)naphthalene-1-sulfonamide) (22).



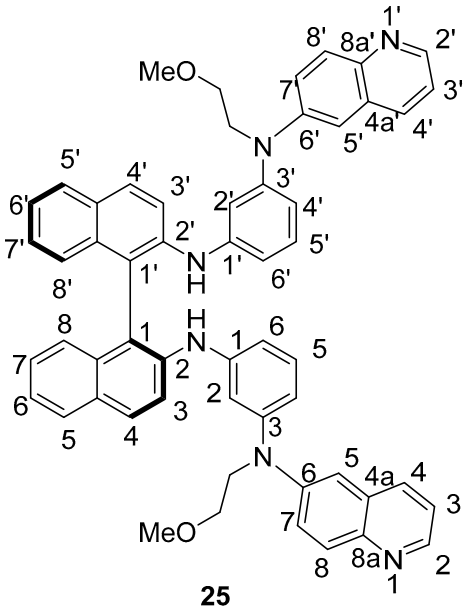
23

(*S*)-4,4'-(((([1,1'-binaphthalene]-2,2'-diylbis(azanediyl))bis(3,1-phenylene))bis((2-methoxyethyl)azanediyl))bis(methylene))bis(7-methoxy-2H-chromen-2-one) (23).



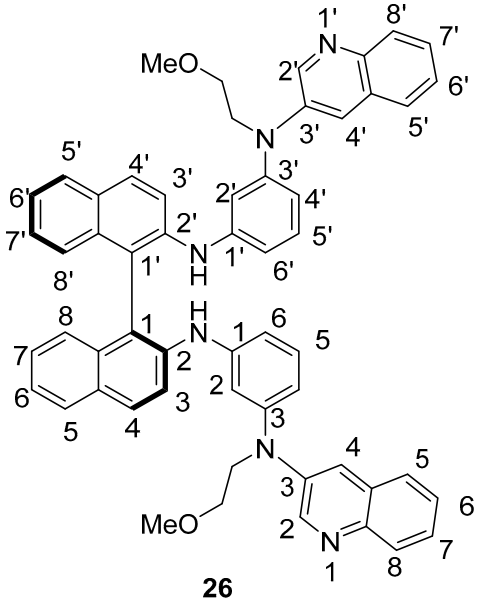
24

(*S*)-4,4'-(((([1,1'-binaphthalene]-2,2'-diylbis(azanediyl))bis(3,1-phenylene))bis((2-methoxyethyl)azanediyl))bis(methylene))bis(6,7-dimethoxy-2H-chromen-2-one) (24).



25

(*S*)-N^1,$N^{1'}$-([1,1'-binaphthalene]-2,2'-diyl)bis(N^3-(2-methoxyethyl)-N^3-(quinolin-6-yl)benzene-1,3-diamine) (25).



(*S*)-N^1,$N^{1'}$-([1,1'-binaphthalene]-2,2'-diyl)bis(N^3-(2-methoxyethyl)-N^3-(quinolin-3-yl)benzene-1,3-diamine) (26).

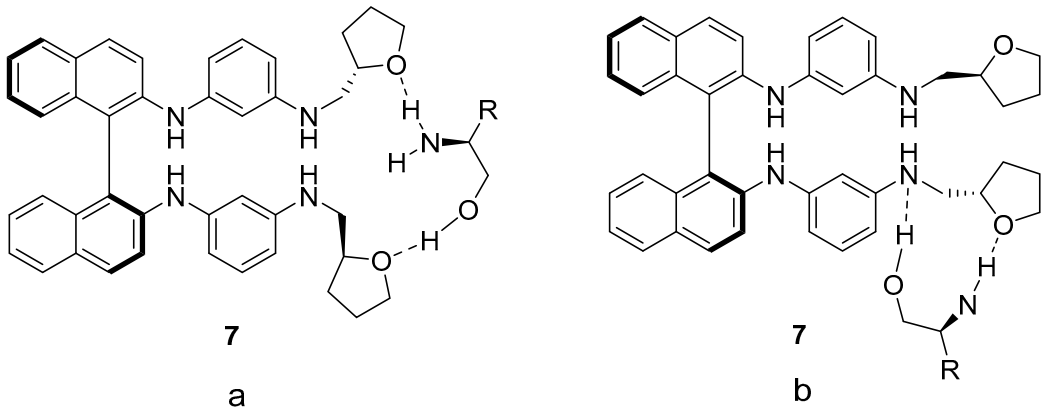


Figure S1. Plausible coordination patterns for amino alcohols with the BINAM-based ligands: (**a**) coordination with two chiral suntsituents; (**b**) coordination with one chiral substituent.

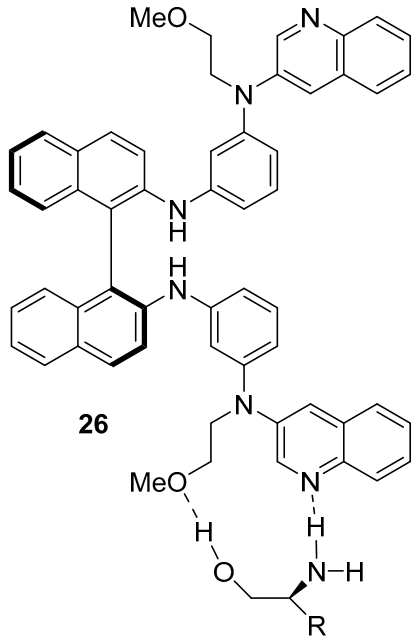


Figure S2. Plausible coordination of amino alcohols with the ligand **26**.

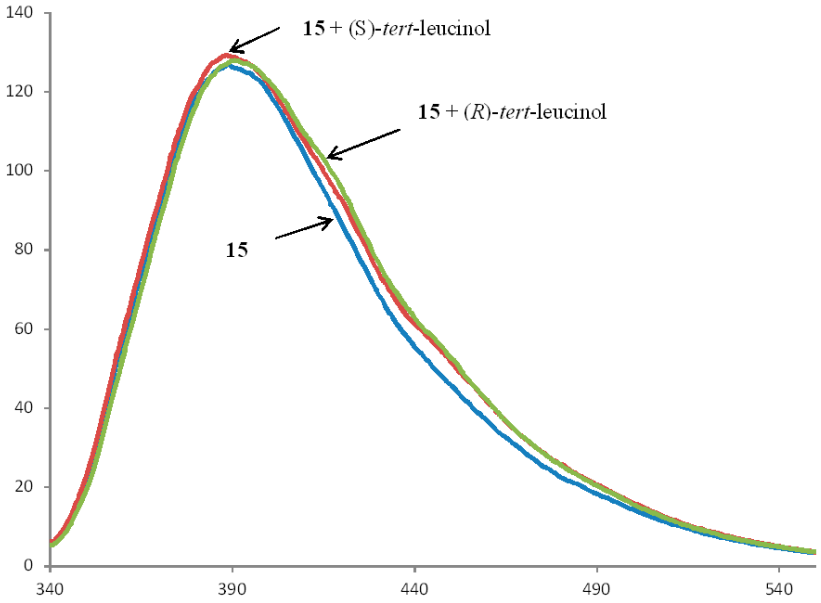


Figure S3. Fluorescence spectra of compound **15** in the presence of (*R*)- and (*S*)-enantiomers of *tert*-leucinol (1000 equiv.).

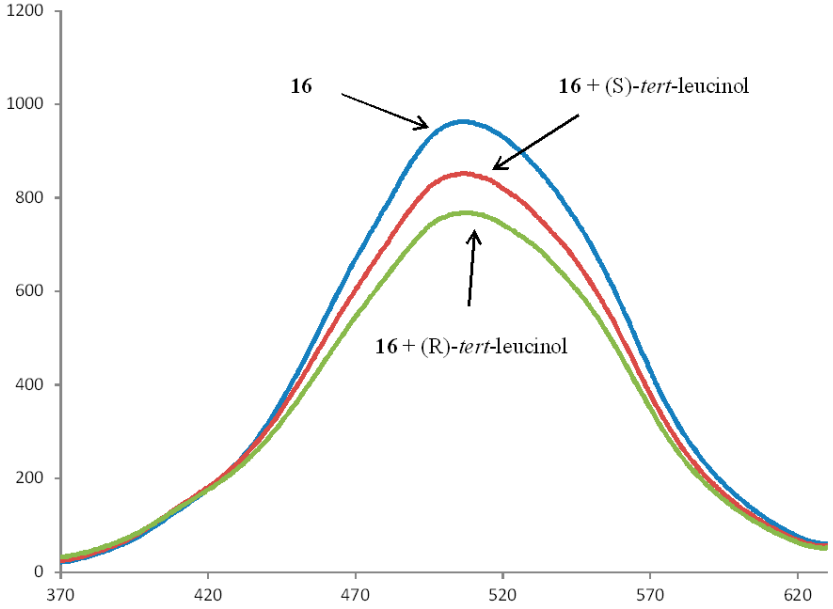


Figure S4. Fluorescence spectra of compound **16** in the presence of (*R*)- and (*S*)-enantiomers of *tert*-leucinol (1000 equiv.).

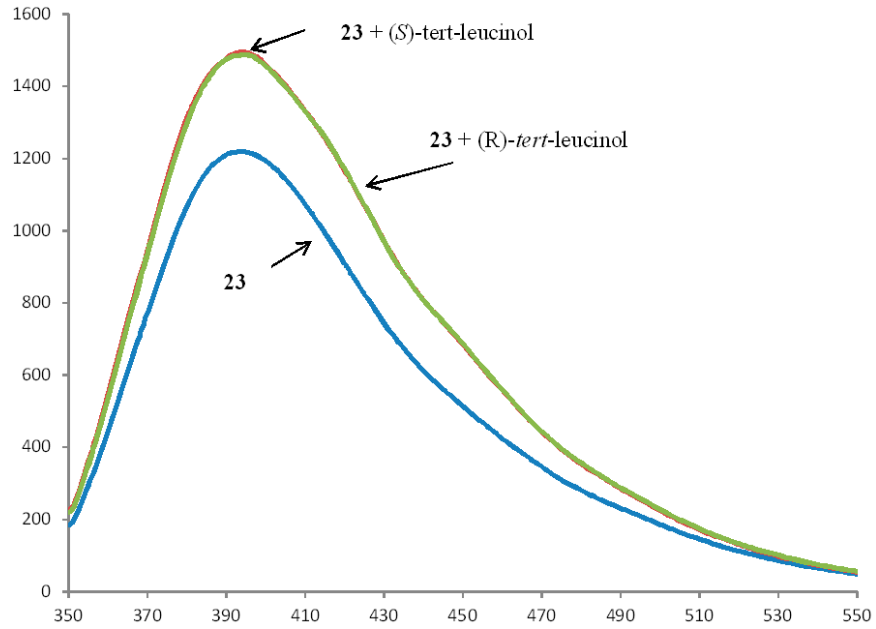


Figure S5. Fluorescence spectra of compound **23** in the presence of (*R*)- and (*S*)-enantiomers of *tert*-leucinol (1000 equiv.).

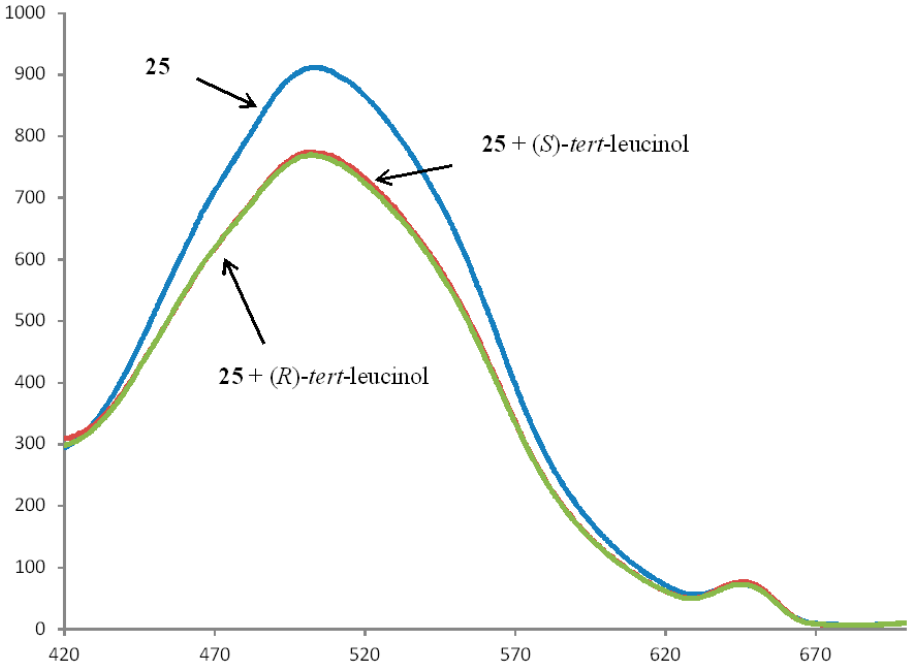


Figure S6. Fluorescence spectra of compound **25** in the presence of (*R*)- and (*S*)-enantiomers of *tert*-leucinol (1000 equiv.).

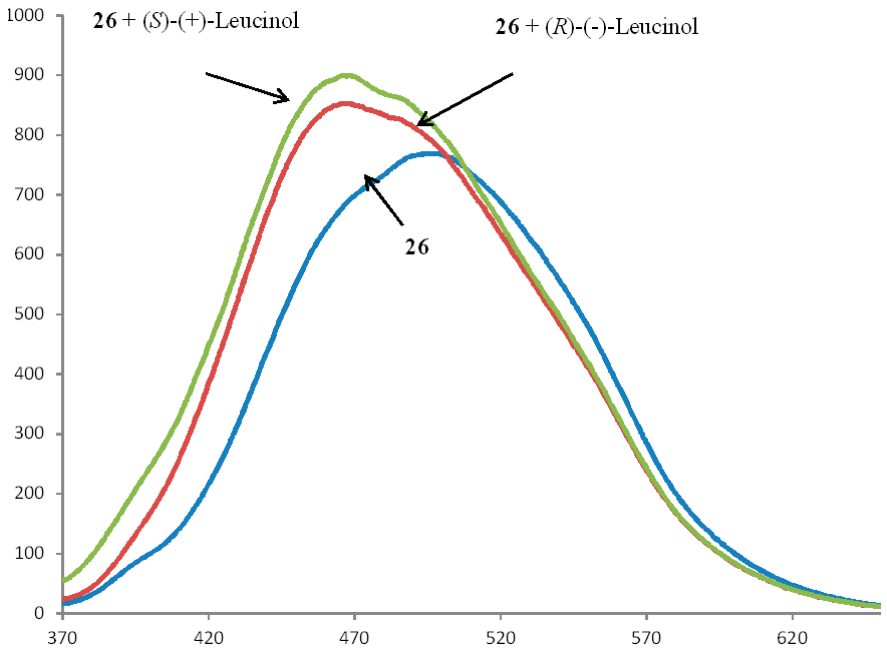


Figure S7. Fluorescence spectra of compound **26** in the presence of (*R*)- and (*S*)-enantiomers of leucinol (1000 equiv.).

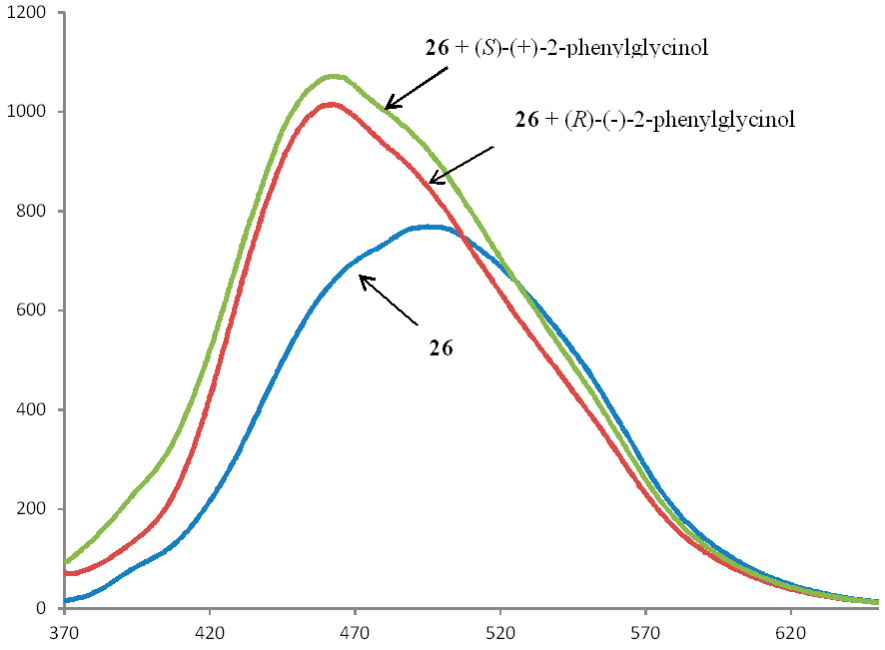


Figure S8. Fluorescence spectra of compound **26** in the presence of (*R*)- and (*S*)-enantiomers of 2-phenylglycinol (1000 equiv.).

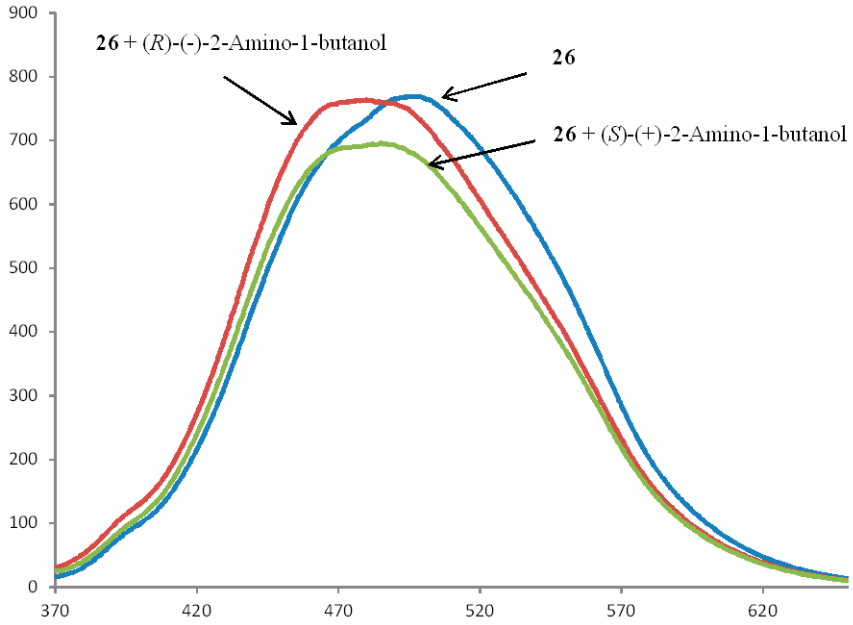


Figure S9. Fluorescence spectra of compound **26** in the presence of (*R*)- and (*S*)-enantiomers of 2-amino-1-butanol (1000 equiv.).

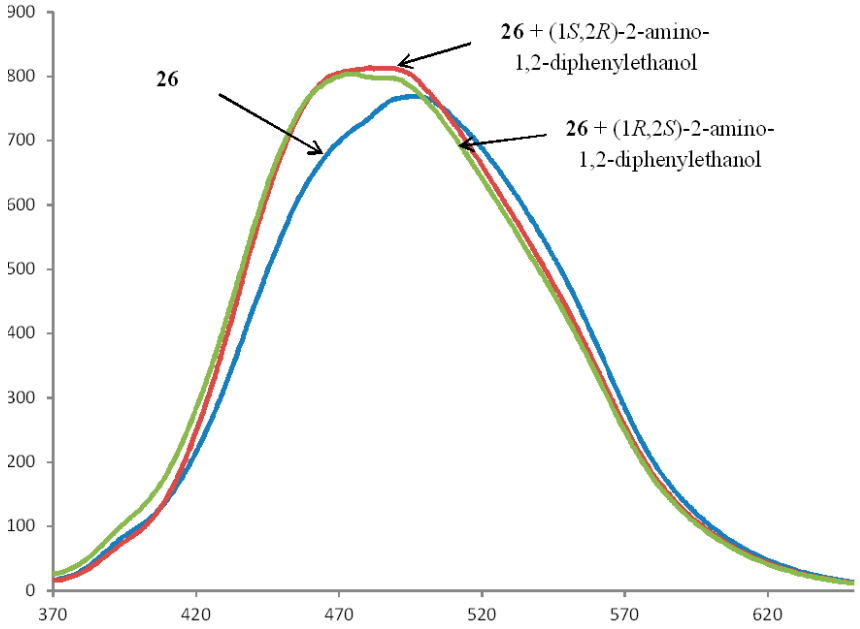


Figure S10. Fluorescence spectra of compound **26** in the presence of the enantiomers of 2-amino-1,2-diphenylethanol (1000 equiv.).