7. The compound according to any one of the preceding claims, wherein the at least one electron withdrawing group moiety is adjacent the alkene moiety.

8. The compound according to any one of the preceding claims, wherein the at least one electron withdrawing group moiety is selected from the group consisting of a halogen, aldehyde, ketone, ester, carboxylic acid, acyl chloride, trifluoromehtyl, nitrile, sulphonic acid, ammonium, amide, amino, azo, nitro, sulfone and phosphonate moiety.

9. The compound according to claims 4, 7 and 8, wherein R_1 and R_2 are selected from the group consisting of an optionally substituted acrylic ester, acrylic acid, acryloyl, acrylonitrile and acrylamide moiety.

10. The compound according to claim 9, wherein R_1 and R_2 are independently an optionally substituted acrylic ester moiety.

11. The compound according to claim 10, wherein the ester group of the acrylic ester moiety has 1 to 4, 1 to 3 or 1 to 2 carbon atoms.

12. The compound according to claim 11, wherein the ester group of the acrylic ester moiety has 1 cabon atom, thereby R_1 and R_2 being independently a methyl acrylate.

13. The compound according to any one of claims 1-~~13~~12, wherein R_3 is a substituted aryl.

14. The compound according to claim ~~14~~13, wherein R_3 is a substituted phenyl.

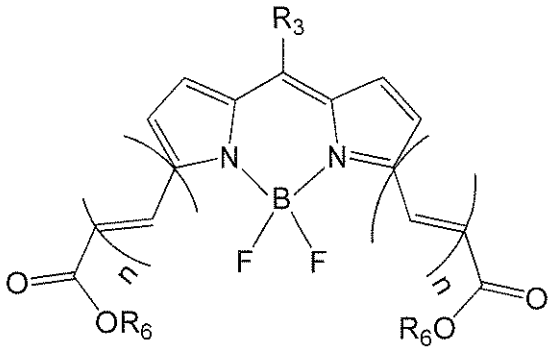
15. The compound according to claim ~~15~~14, wherein the phenyl is substituted with a heterocyclic group.

16. The compound according to claim ~~16~~15, wherein the heterocyclic group is a morpholine group.

17. The compound according to claim ~~17~~15, wherein the heterocyclic group is a morpholinecarbonyl group.

18. The compound according to any one of the precedent claims, wherein R_4 and R_5 are independently a fluoro atom.

19. A compound of formula I-A



I-A

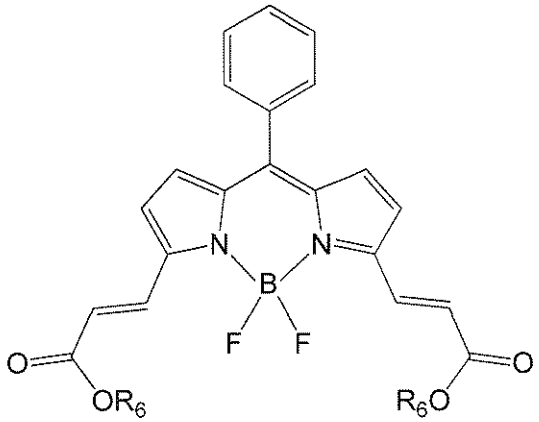
wherein

n is an integer selected from 1 to 10, 1 to 7, 1 to 4 or n=1, n=2 or n=3;

R_3 is independently selected from hydrogen or optionally substituted aryl;

R_6 is hydrogen or a lower alkyl with 1 to 6 carbon atoms.

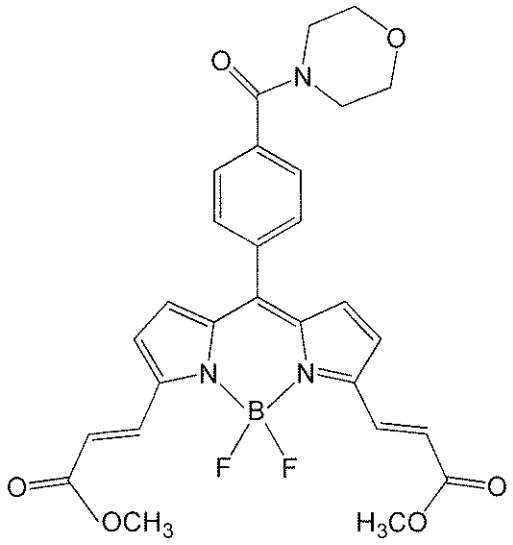
20. A compound of formula I-B



I-B

wherein R_6 is hydrogen or a lower alkyl with 1 to 6 carbon atoms.

21. A compound of formula I-C



22. An isolated peptide segment comprising two or more cysteine group capable of binding with a compound of any one of claims 1-21 to thereby induce a change in a fluorescence property of the compound, the peptide segment capable of being coupled to, or being integrated within a sequence of, a target protein.

23. The peptide segment of claim 22 comprising two cysteine groups.

24. The peptide segment according to claim 23, wherein the binding between the peptide segment and a compound of any one of claims 1-21 involves the sulfur atom of each cysteine group forming a covalent bond with a respective alkene carbon atom of R_1 and R_2 of the compound of any one of claims 1-21.

25. The peptide segment according to claim 23-24, wherein the peptide segment has two cysteine groups being spaced apart by 1 to 10 or 2 to 5 amino acids there between.

26. The peptide segment according to claim 25, wherein the two cysteine groups are spaced apart by 3 amino acids there_between.

27. The peptide segment according to any one of claims 23 or 26, wherein the peptide segment further comprises an arginine group adjacent each cysteine group, thereby forming two cysteine-arginine or arginine-cysteine pairs.

28. The peptide segment according to claims 26 and 27, wherein the two cysteine-arginine or arginine-cysteine pairs are spaced apart by 3 amino acids there_between.

29. The peptide segment according to any one of claims 23-28 for binding to the compound of any one of claims 1-21, wherein the distance between the two cyestein groups or cysteine-arginine or arginine-cysteine pairs approximately correspond to the distance between the respective alkene moiety of R_1 and R_2.

30. A complex comprising a compound according to any one of claims 1-21 covalently bound to a peptide segment of any one of claims 23-29.

31. The complex according to claim 30, wherein the peptide segment is coupled to a target protein.

32. Use of a compound according to any one of claims 1-21 as an imaging probe in conjunction with a peptide segment of any one of claims 22-29.

33. A method of imaging a target protein in a biological matrix, the method comprising the steps of:

~~d~~a) providing at least one peptide segment of any one of claims 22-29 to tag a target protein;

~~e~~b) providing a compound of formula I as defined in any one of claims 1 to 21 to enable covalent binding between the compound of formula I and the at least one peptide segment; and

~~f)~~ c) imaging the bound complex in the biological matrix.

34. The method of claim 33, wherein in step a) the peptide segment is directly or indirectly coupled to the target protein.

35. The method of claim 34, ~~Wherein~~ wherein the biological matrix is an intracellular or extracellular matrix.

36. The method of claim 35, wherein the biological matrix takes place inside live cells.

37. The method of claim 36, wherein step b) provides a compound of formula I in which R_1 and R_2 are each an acrylic ester.

38. The method of claim 37, wherein step b) provides a compound of formula I in which R_1 and R_2 are each a methyl acrylate, and R_3 is a phenyl substituted with a morpholine carbonyl group.

39. The method of any one of claims 33-38, wherein step a) comprises providing two peptide segments of any one of claims ~~23~~22 to ~~31~~29 to tag a target protein.

40. An imaging kit comprising a compound of any one of claims 19-21 as an imaging probe and at least one peptide segment of any one of claims ~~23~~22-29.

41. The imaging kit according to claim ~~39~~40 ~~comprises~~ comprising two peptide segments of any of claims ~~23~~22-29.