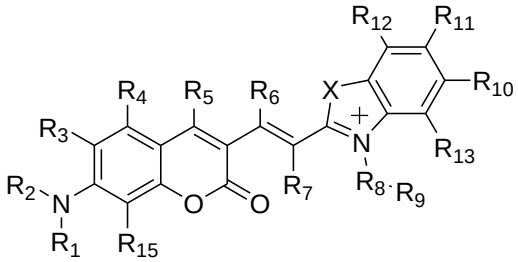
We Claim:

1. A Compound of Formula I:



I

Wherein,

X is selected from group comprising oxygen, sulphur and Selenium;

R1 is selected from group comprising methyl, ethyl, propyl and chloroethyl;

R2 is selected from group comprising methyl, ethyl, propyl and chloroethyl;

R3, R4 and R5 is H;

R6 is H;

R7 is H;

R8 is $(CH_2)_n$, wherein 'n' is 1, 2, 3, 4, 5 or 6;

R9 is selected from group comprising bromine, quaternary ammonium, ethyne and carboxylic acid;

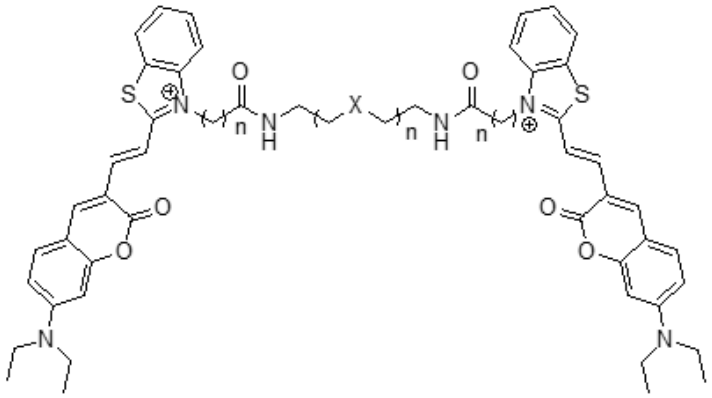
R10, R11, R12 and R13 is H;

R15 is H;

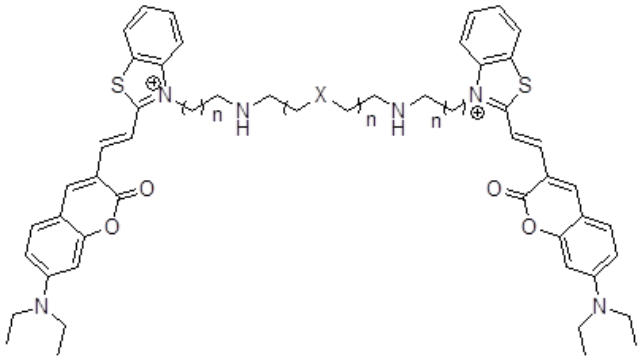
Wherein, optionally R2 and R3, R1 and R15 form a 2, 3, 6, 7 tetrahydro-quinolizine (quinolizidine).

2. The compound as claimed in claim 1, wherein the compound is selected from group comprising, (E)-3-(2-(N-methyl-benzo[d][1,3]selenazol-2-yl)vinyl)-7-(diethylamino)-2 H -chromen-2-one, (E)-3-(2-(N-(prop-2-ynyl)-benzo[d]thiazol-2-yl)vinyl)-7-(diethylamino)-2 H -chromen-2-one, (E)-3-(2-(N-(N, N, N-trimethyl-2-aminoethyl)-benzo[d]thiazol-2-yl)vinyl)-7-(diethylamino)-2 H -chromen-2-one, , (E)-3-(2-(N-(N, N, N-trimethyl-3-aminopropyl)-benzo[d]thiazol-2-yl)vinyl)-7-(diethylamino)-2 H -chromen-2-one, (E)-3-(2-(N-(prop-2-ynyl)-benzo[d]oxazol-2-yl)vinyl)-7-(diethylamino)-2 H -chromen-2-one, (E)-3-(2-(N-(N, N, N-trimethyl-2-aminoethyl)- benzo[d]oxazol-2-yl)vinyl)-7-(diethylamino)-2 H -chromen-2-one, , (E)-3-(2-(N-(N, N, N-trimethyl-3-aminopropyl)- benzo[d]oxazol-2-yl)vinyl)-7-(diethylamino)-2 H -chromen-2-one, (E)-3-(2-(N-methyl-benzo[d]thiazol-2-yl)vinyl)-7-(dimethylamino)-2 H -chromen-2-one, (E)-3-(2-(N-methyl-benzo[d]thiazol-2-yl)vinyl)-7-(dipropylamino)-2 H -chromen-2-one, 2,3,6,7-Tetrahydro-8-hydroxy-1*H*,5*H*-benzo[*ij*]quinolizine-9-carboxaldehyde (Thiazole Julidinal), (E)-3-(2-(N-(prop-2-ynyl)-benzo[d]thiazol-2-yl)vinyl)-7-(diethylamino)-2 H -chromen-2-one, (E)-3-(2-(N-(4-bromobutyl)-benzo[d]thiazol-2-yl)vinyl)-7-(diethylamino)-2 H -chromen-2-one, and (E)-3-(N-Methyl2-(benzo[d]thiazol-2-yl)vinyl)-7(bis(2-chloroethyl)amino)-2H-chromen-2-one.

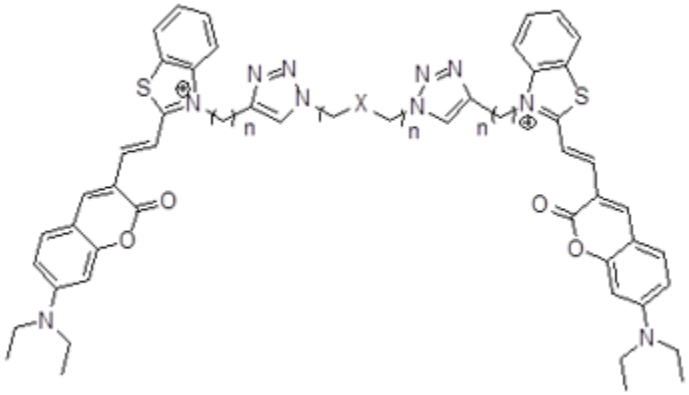
3. The compound as claimed in claim 1, wherein the compound exists in dimeric form selected from a group consisting of compound of formula II, compound of formula III and compound of formula IV



FORMULA II

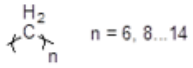


FORMULA III

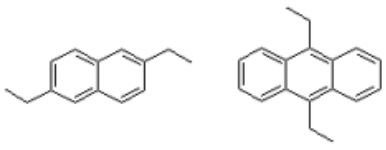


Wherein

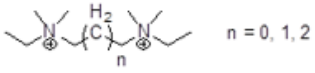
X = aliphatic

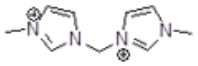


X = aromatic



X = Quaternary amines





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4. A process of preparing compound as claimed in claim 1, wherein the process comprises step of reacting a carbaldehyde derivative with heteroaryl derivative in presence of catalyst and solvent to obtain the compound.

5. The process as claimed in claim 4, wherein the carbaldehyde derivative is 7-(dialkylamino)-2-oxo-2H-chromene-3-carbaldehyde or 7-(bis(2-chloroalkyl)amino)-2-oxo-2H-chromene-3-carbaldehyde.

6. The process as claimed in claim 4, wherein the heteroaryl derivative is selected from group comprising N-alkylated 2-methyl benzothiazole, N-alkynylated 2-methyl benzothiazole, N-alkylated 2-methyl benzoxazole and 2-methyl benzoselinazole.

7. A process of preparing dimer of compound as claimed in claim 1, wherein the process comprises step of combining two monomers of formula I as claimed in claim 1 using linker.

8. The process as claimed in claim 4, wherein the catalyst is selected from group comprising base, acid, salt and combinations thereof.

9. The process as claimed in claim 8, wherein the base is selected from group comprising piperidine, sodium acetate, sodium methoxide, potasium tert-butoxide and combinations thereof.

10. The process as claimed in claim 4, wherein the solvent is selected from a group comprising ethanol, methanol, dichloromethane and combinations thereof.

11. The process as claimed in claim 4, wherein the process is carried out at a temperature ranging from about 25 °C to about 90 °C, and for a time period ranging from about 3 hours to about 10 hours.

12. The process as claimed in claim 4, wherein the compound obtained is optionally purified.

13. A method for detecting AT rich sequence of DNA in a sample comprising steps of:

a) incubating the sample with compound of formula I as claimed in claim 1; and
b) subjecting the incubated sample to fluroscence imaging for detecting the AT rich sequence of DNA.

14. A method for detecting presence of a parasite in a sample, the method comprising steps of:

a) incubating the sample with compound of formula I as claimed in claim 1; and
b) subjecting the incubated sample to fluorescence imaging for detecting the malarial parasite.

15. The method as claimed in claim 14, wherein the parasite is selected from group comprising P.falcipuram, P. vivax, P. ovale and P. malariae.

16. The method as claimed in claim 14, wherein the sample is selected from group comprising blood, urine, serum, plasma and saliva.

17. A method for detecting Aβ peptide aggregate in a sample comprising steps of:

a) incubating the sample with compound of formula I as claimed in claim 1; and
b) subjecting the incubated sample to fluorescence imaging for detecting the Aβ peptide aggregate.

18. The method as claimed in claim 17, wherein upon said incubation, the compound of formula I exhibits interaction selected from group comprising hydrophobic interaction with Leu17, Val39 of the Aβ peptide aggregate, π-π stacking interaction with the phenyl ring of Phe19 of the Aβ peptide aggregate and a combination thereof.

19. A method for diagnosing disease selected from group comprising Alzheimer's disease, Frontotemporal Dementia and a combination thereof in a subject; wherein the method comprises steps of:

a) incubating sample obtained from the subject with compound of formula I as claimed in claim 1; and

b) subjecting the incubated sample to fluorescence imaging for diagnosing said disease.

20. The method as claimed in claim 19, wherein the subject is a mammal; and wherein the sample is selected from group comprising blood, urine, serum, plasma, cerebrospinal fluid and brain tissue.

21. A kit comprising compound as claimed in claim 1, optionally along with an instruction manual.