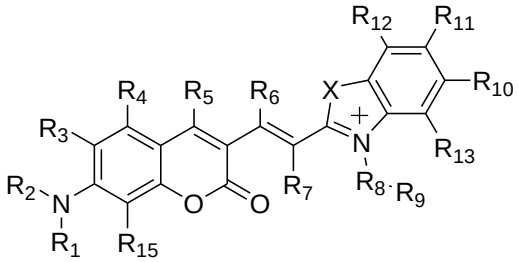
We Claim:

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;

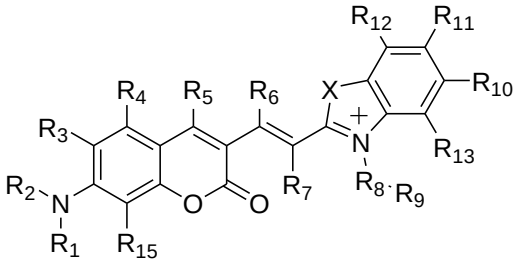
R15 is H;

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

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

2. 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;

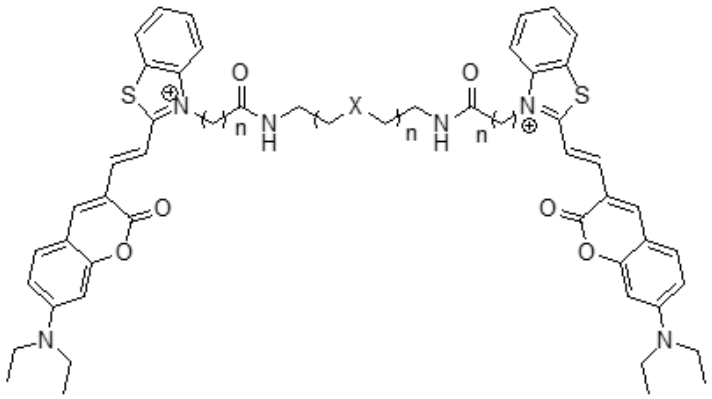
R9 is selected from group comprising bromine, quaternary ammonium, ethyne and carboxylic acid;

R10, R11, R12 and R13 is H;

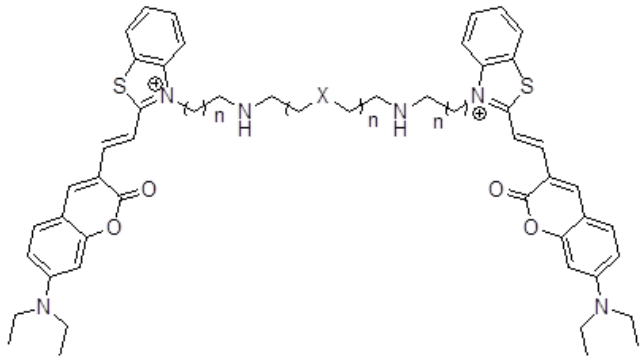
R15 is H;

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

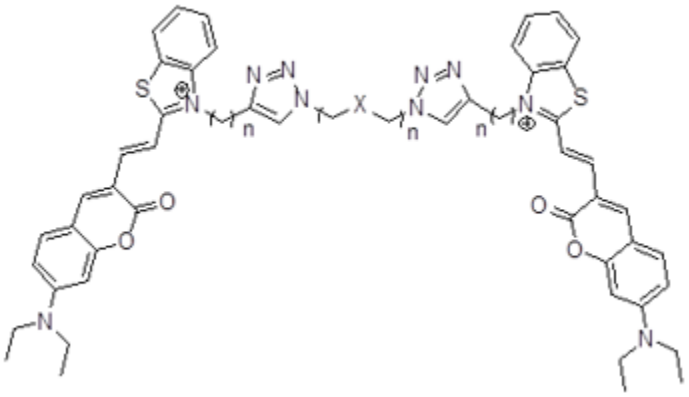
wherein the compound exists in dimeric form selected from a group consisting of compound of formula II, compound of formula III and compound of formula IV



FORMULA II

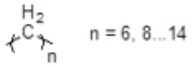


FORMULA III

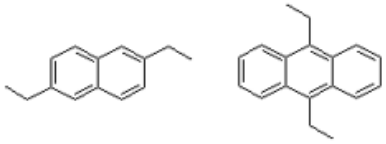


Wherein

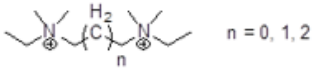
X = aliphatic

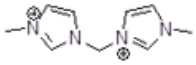


X = aromatic



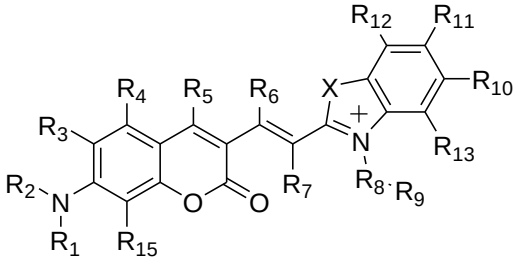
X = Quaternary amines





5 .

3. A process of preparing dimer of compound of Formula I:



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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;

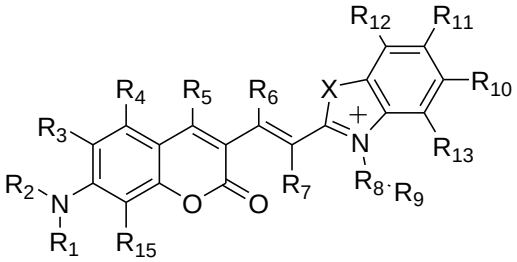
R15 is H;

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

wherein the process comprises step of combining two monomers of formula I using linker.

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

a) incubating the sample with compound of formula I



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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;

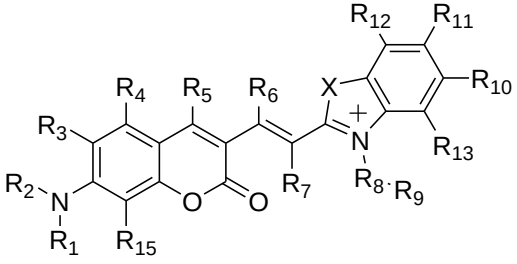
R15 is H;

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

b) subjecting the incubated sample to fluroscence imaging for detecting the AT rich sequence of DNA.

5. 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



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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); and

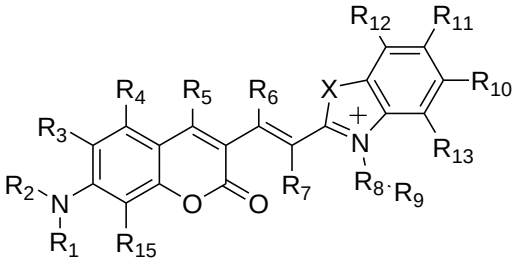
subjecting the incubated sample to fluorescence imaging for detecting the malarial parasite.

6. The method as claimed in claim 5, wherein the parasite is selected from group comprising P.falcipuram, P. vivax, P. ovale and P. malariae.

7. The method as claimed in claim 5, wherein the sample is selected from group comprising blood, urine, serum, plasma and saliva.

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

a) incubating the sample with compound of formula I



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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;

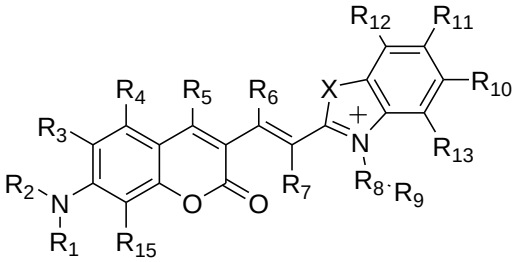
Wherein, optionally R2 and R3, R1 and R15 form a 2, 3, 6, 7 tetrahydro-quinolizine (quinolizidine); and

b) subjecting the incubated sample to fluorescence imaging for detecting the Aβ peptide aggregate.

9. The method as claimed in claim 8, 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.

10. 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



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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;

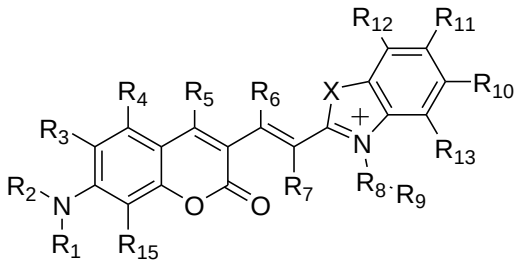
R15 is H;

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

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

11. The method as claimed in claim 10, wherein the subject is a mammal; and wherein the sample is selected from group comprising blood, urine, serum, plasma, cerebrospinal fluid and brain tissue.

12. A kit comprising a compound of Formula I:



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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), optionally along with an instruction manual.