Manna Fedele and co-workers (268) have reported some Oxo-Tetrahydro-Pyrimidine derivative as anti inflammatory agents. Villa lobas Anabella et. al. (269) have prepared some new Oxo-Tetrahydropyrimidine derivative and reported them as choline-sterase inhibitors. Bhatt and co-workers (270) have synthesised Oxo-Tetrahydro Pyrimidine derivative and report their therapeutic activity as immune suppressive agents. Francis (271) had studied the effect of some substituted pyridines on the growth of the walker carcinoma sarcoma (256) in cell tissue culture.

The insecticidal activity has been screened by Sasuki .Y and co-workers (272). Ten Umed et. al. (273) have prepared Oxo-Tetrahydropyrimidine derivative as agrochemical fungicides.

Villa lobas Anabella et. al. (269) have prepared some new Oxo-Tetrahydropyrimidine derivative and reported them as choline-sterase inhibitors. Bhatt and co-workers (270) have synthesised Oxo-Tetrahydro Pyrimidine derivative and report their therapeutic activity as immune suppressive agents. Francis (271) had studied the effect of some substituted pyridines on the growth of the walker carcinoma sarcoma (256) in cell tissue culture.

Oxo-Tetrahydropyrimidine derivative are also applicable in the dyeing of acrylic fiber and polyester (276,277).

Moreover, Oshida Mario (279) has synthesized novel cyanopyridine derivatives that are capable to inhibit cerebral edema and delayed neuron death. Hence, Oxo-Tetrahydropyrimidine derivative are useful as cerebrovascular disorder remedies or cerebral edema inhibitor.

NH$_2$CONH$_2$ derivatives with chalcone are therapeutically applicable as analgesic, central nervous system depressant, antimalarial.
Reactions:

Scheme – 6.1 Synthesis of 2-Oxo-Tetrahydropyrimidine Derivatives

Where \( R \) as: (6a) -H (6b) 4-OCH₃ (6c) 2- OCH₃ (6d) 2-OH (6e) 2-Cl (6f) 4-Cl (6g) 2-NO₂ (6h) 3-Br (6i) 3,4-(OCH₃)₂ (6j) 3,4,5-(OCH₃)₂
Experimental

(6a) PREPARATION OF 2-METHYL-5-NITRO-N-(4-(3-(2-OXO-6-PHENYL-1,2,5,6-TETRAHYDROPYRIMIDIN-4-YL)PHENOXY) PHENYL) BENZENE- SULFONAMIDE

A blend of (E)-N-(4-(3-cinnamoylphenoxy)phenyl)-2-methyl-5-nitro benzene sulfonamide (4.2 g, 0.01 mol) and NH₂CONH₂ (0.60 g,0.01 mol) and HCl (20 ml) ethanol (95%,20ml), was refluxed for two hours on water-bath at 60-70°C. The reaction blend was filtered when it was hot and then allows it to cool. Crystallize the resulting solid using ethanol solvent.

(6b)N-(4-(3-(6-(4-METHOXYPHENYL)-2-OXO-1,2,5,6-TETRAHYDROPYRIMIDIN-4-YL)PHENOXY)PHENYL)-2-METHYL-5-NITROBENZENE- SULFONAMIDE

A blend of (E)-N-(4-(3-(4-methoxyphenyl)acryloyl)phenoxy)phenyl)-2-methyl-5-nitrobenzenesulfonamide (0.44 g, 0.001 mol) and NH₂CONH₂ (0.60 g,0.01 mol) and HCl (20 ml) in ethanol (95%,20ml), was refluxed for two hours on water-bath at 60-70°C. The reaction blend was filtered when it was hot and then allows it to cool. Crystallize the resulting solid using ethanol solvent.

(6c)N-(4-(3-(6-(2-METHOXYPHENYL)-2-OXO-1,2,5,6-TETRAHYDROPYRIMIDIN-4-YL)PHENOXY)PHENYL)-2-METHYL-5-NITROBENZENE- SULFONAMIDE

A blend of (E)-N-(4-(3-(2-methoxyphenyl)acryloyl)phenoxy)phenyl)-2-methyl-5-nitrobenzenesulfonamide (0.45 g, 0.001 mol) and NH₂CONH₂ (0.60 g,0.01 mol) and HCl (20 ml) in ethanol (95%,20ml), was refluxed for two hours on water-bath at 60-70°C. The reaction blend was filtered when it was hot and then allows it to cool. Crystallize the resulting solid using ethanol solvent.
(6d) N-(4-(3-(6-(2-HYDROXYPHENYL)-2-OXO-1,2,5,6-TETRAHYDRO PYRIMIDIN-4-YL)PHENOXY)PHENYL)-2-METHYL-5-NITROBENZENE- SULFONAMIDE

A blend of (E)-N-(4-(3-(2-hydroxyphenyl)acryloyl)phenoxy)phenyl)-2-methyl-5-nitrobenzenesulfonamide (0.47 g, 0.001 mol) and NH$_2$CONH$_2$ (0.60 g, 0.01 mol) and HCl (20 ml) in ethanol (95%, 20 ml), was refluxed for two hours on water-bath at 60-70°C. The reaction blend was filtered when it was hot and then allowed it to cool. Crystallize the resulting solid using ethanol solvent.

(6e) N-(4-(3-(6-(2-CHLOROPHENYL)-2-OXO-1,2,5,6-TETRAHYDRO PYRIMIDIN-4-YL)PHENOXY)PHENYL)-2-METHYL-5-NITROBENZENE- SULFONAMIDE

A blend of (E)-N-(4-(3-(2-chlorophenyl)acryloyl)phenoxy)phenyl)-2-methyl-5-nitrobenzenesulfonamide (0.44 g, 0.001 mol) and NH$_2$CONH$_2$ (0.60 g, 0.01 mol) and HCl (20 ml) in ethanol (95%, 20 ml), was refluxed for two hours on water-bath at 60-70°C. The reaction blend was filtered when it was hot and then allowed it to cool. Crystallize the resulting solid using ethanol solvent.

(6f) N-(4-(3-(6-(4-CHLOROPHENYL)-2-OXO-1,2,5,6-TETRAHYDRO PYRIMIDIN-4-YL)PHENOXY)PHENYL)-2-METHYL-5-NITROBENZENE- SULFONAMIDE

A blend of (E)-N-(4-(3-(4-chlorophenyl)acryloyl)phenoxy)phenyl)-2-methyl-5-nitrobenzenesulfonamide (0.45 g, 0.001 mol) and NH$_2$CONH$_2$ (0.60 g, 0.01 mol) and HCl (20 ml) in ethanol (95%, 20 ml), was refluxed for two hours on water-bath at 60-70°C. The reaction blend was filtered when it was hot and then allowed it to cool. Crystallize the resulting solid using ethanol solvent.
(6g) 2-METHYL-5-NITRO-N-(4-(3-(6-(2-NITROPHENYL)-2-OXO-1,2,5,6-
TETRAHYDROPYRIMIDIN-4-YL)PHENOXY)PHENYL)BENZENE-
SULFONAMIDE

A blend of (E)-2-methyl-5-nitro-N-(4-(3-(2-nitrophenyl) acryloyl)
phenoxy) -phenyl benzene sulfonamide (0.46 g, 0.001 mol) and NH₂CONH₂ (0.60
g, 0.01 mol) and HCl (20 ml) in ethanol (95%, 20 ml), was refluxed for two hours on
water-bath at 60-70°C. The reaction blend was filtered when it was hot and then
allows it to cool. Crystallize the resulting solid using ethanol solvent.

(6h)N-(4-(3-(6-(3-BROMOPHENYL)-2-OXO-1,2,5,6-TETRAHYDROPYRIMIDIN-
4-YL)PHENOXY)PHENYL)-2-METHYL-5-NITROBENZENESULFONAMIDE

A blend of (E)-N-(4-(3-(3-bromophenyl) acryloyl) phenoxy) phenyl)-2-
methyl-5-nitrobenzenesulfonamide (0.44 g, 0.001 mol) and NH₂CONH₂ (0.60 g, 0.01
mol) and HCl (20 ml) in ethanol (95%, 20 ml), was refluxed for two hours on
water-bath at 60-70°C. The reaction blend was filtered when it was hot and then
allows it to cool. Crystallize the resulting solid using ethanol solvent.

(6i)N-(4-(3-(6-(3,4-DIMETHOXYPHENYL)-2-OXO-1,2,5,6-TETRAHYDRO-
PYRIMIDIN-4-YL)PHENOXY)PHENYL)-2-METHYL-5-NITROBENZENESULFONAMIDE

A blend of (E)-N-(4-(3-(3,4-dimethoxyphenyl) acryloyl) phenoxy) phenyl)-
2-methyl-5-nitrobenzenesulfonamide (0.44 g, 0.001 mol) and NH₂CONH₂ (0.60
g, 0.01 mol) and HCl (20 ml) in ethanol (95%, 20 ml), was refluxed for two hours on
water-bath at 60-70°C. The reaction blend was filtered when it was hot and then
allows it to cool. Crystallize the resulting solid using ethanol solvent.
(6j) 2-METHYL-5-NITRO-N-(4-(3-(2-OXO-6-(3,4,5-TRIMETHOXYPHENYL)-1,2,5,6-TETRAHYDROPYRIMIDIN-4-YL)PHENOXY)PHENYL) BENZENE SULFONAMIDE

A blend of (E)-2-methyl-5-nitro-N-(4-(3-(3,4,5-trimethoxyphenyl)acryloyl)phenoxy)phenylbenzenesulfonamide (0.44 g, 0.001 mol) and NH₂CONH₂ (0.60 g) and HCl (20 ml) in ethanol (95%, 20 ml), was refluxed for two hours on water-bath at 60-70°C. The reaction blend was filtered when it was hot and then allows it to cool. Crystallize the resulting solid using ethanol solvent.
Table No – 6.1 Analytical Data of 2-Oxo-TetrahydroPyrimidine Derivative

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<th>No.</th>
<th>Code No.</th>
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