**Supplementary Material**

**General procedure for the transesterification under conventional Condition:**

For condensation, the contents such as benzyl alcohol (10mmol), ethyl acetoacetate (10mmol), catalytic amount of FAS or ANS separately (5mmol) and solvent (toluene, 20mL) were taken in a previously cleaned in a round bottom flask and is subjected to reflux at 1000C-1100C for about 10 to 14 hours (1000C to 1200C for about 12-16 hrs). After complete conversion as indicated by TLC, the reaction mixture was quenched with water, and is treated with dilute NaHCO3 solution, followed by the addition of ethyl acetate. The organic layer was separated, dried over Na2SO4 and concentrated under vacuum, purified with column chromatography using hexane: ethyl acetate as eluent to get pure product. Obtained product is characterized by NMR Spectroscopy studies. The spectral data of the obtained products are demonstrated in table 3.

**Procedure for Ultrasonically assisted method:**

For ultrasonically assisted reaction, the contents of the reaction such asbenzyl alcohol (10mmol), ethyl acetoacetate (10mmol), catalytic amount of FAS or ANS (5mmol) and solvent (toluene, 20mL) were taken in a boiling tube placed in a sonication bath. A high energy sound wave of about 40 kHz frequency and voltage of 220V (with an output of 100 W electric power rating) was mounted at the bottom of the Sonication bath. The mechanism of the reaction is discussed in the above section. The progress of the reaction is monitored by TLC. The work up procedure and characterization is same as discussed in conventional method.

**Procedure for Microwave assisted reaction:**

This is a solventfreetechnique in which the contents of the reaction such asbenzyl alcohol (10mmol), ethyl acetoacetate (10mmol), and catalytic amount of FAS or ANS separately (5mmol) are taken in a 50 mL beaker and mixed thoroughly. About 500 mg of silica gel was added to the mixture and heated (320 Watt) in a controlled microwave synthesizer. The progress of the reaction is monitored by TLC. The work up procedure and characterization is same as discussed in conventional method.

Oxo butanoates of certain aromatic alcohols such as benzyl, 4-methyl benzyl, Methoxy benzyl 3, 4-dimethoxy benzyl, 4-Chloro benzyl, 2-nitro benzyl Oxo butanoates are obtained respectively from FAS or ANS catalysed transesterification of benzyl, 4-methyl, methoxy benzyl and 3, 4-dimethoxy benzyl, 4-chloro benzyl, 2-nitro benzyl alcohols according to the procedures described above under conventional and solvent free conditions.

**Benzyl 3-oxobutanoate**: 1HNMR (300MHz, CDCl3): 7.41((m, 5H, Ar-H), 7.32(s, 3H, -CH3)

5.06(m, 2H, CH2), 3.18(m, 2H, -CH2-), 2.11(t, 3H, CH3)

13C NMR (75 MHz, CDCl3): δ 200.4, 168.1, 136.1, 128.9, 127.6, 127.1, 66.1, 50.0, 30.3

BP=2760C; HRMS (EI) Calc. M: 192.2112, Found: 192.0786

(a)

**4-methylbenzyl 3-oxobutanoate**: 1HNMR (300MHz, CDCl3): δ 7.11(m, 5H, Ar-H), 7.08(s, 2H, >CH2), 5.20(s, 3H, -COCH3), 2.34(m, 2H, CH2), 1.56(m, 2H, -CH2-), 2.25(s, 3H, CH3)

13C NMR (75 MHz, CDCl3): δ 198.4, 165.1, 134.1, 127.9, 127.1, 126.5, 65.1, 50.4, 29.3, 21.0

HRMS (EI) Calc. M: 206.2378, Found: 206.0943

(b)

**4-methoxybenzyl 3-oxobutanoate:** 1HNMR (300MHz, CDCl3): δ 6.91(m, 5H, Ar-H), 6.86(s, 2H, >CH2), 5.20(s, 3H, -COCH3), 3.75(m, 2H, CH2), 3.27(t, 3H, CH3), 2.25(s -CH3)

13C NMR (75 MHz, CDCl3): δ 199.6, 165.9, 158.8, 128.7, 128.6, 113.0, 55.1, 49.7, 29.9

HRMS (EI) Calc. M: 222.2369, Found: 222.0879

(c)

**3, 4-dimethylbenzyl 3-oxobutanoate:** 1HNMR (300MHz, CDCl3): δ 6.75(m, 5H, Ar-H), 6.41(s, 2H, -OCH2), 3.39(s, 2H, >CH2), 2.21(s, 2H, -CH2)

13C NMR (75 MHz, CDCl3): δ 198.8, 167.8, 149.7, 124.0, 121.1, 114.0, 54.1, 49.8, 30.0

HRMS (EI) Calc. M: 220.2638, Found: 220.1078

(d)

**4-chlorobenzyl 3-oxobutanoate:** 1HNMR (300MHz, CDCl3): δ 7.39(m, 5H, Ar-H), 7.27(s, 2H, -CH2), 5.14(s, 2H, >0CH2), 3.37 (s, 2H, >0CH2), 2.21(s, 2H, -CH2)

13C NMR (75 MHz, CDCl3): δ 199.8, 166.8, 149.2, 124.1, 121.5, 113.8, 55.1, 49.7, 30.1

HRMS (EI) Calc. M: 226.6543, Found: 226.0291

(e)

**2-nitrobenzyl 3-oxobutanoate:** 1HNMR (300MHz, CDCl3): δ 7.89(m, 5H, Ar-H), 5.06(s, 2H, -OCH2), 3.39(s, 2H, >CH2), 2.21(s, 2H, -CH2)

13C NMR (75 MHz, CDCl3): δ 198.8, 167.8, 149.7, 124.0, 121.1, 114.0, 54.1, 49.8, 30.0

HRMS (EI) Calc. M: 237.2076, Found: 237.0617

(f)

**Quinolin-8-ylmethyl 3-oxobutanoate:** 1HNMR (300MHz, CDCl3): δ 8.79(m, 6H, Ar-H), 8.33(m, 4H, -CH3), 7.88(s, 2H, OCH2), 7.65(d, 2H, -CH2), 7.55 (s, 2H, -CH2), 3.39(s, 2H, >CH2), 2.21(s, 2H, -CH2)

13C NMR (75 MHz, CDCl3): δ 199.6, 167.8, 152.7, 149.4, 137.6, 135.8, 127.8, 127.6, 124.3, 62.7, 49.8, 29.6

HRMS (EI) Calc. M: 243.2476, Found: 243.0655

 (g)

**Phenethyl 3-oxobutanoate:** 1HNMR (300MHz, CDCl3): δ 7.36(m, 4H, Ar-H), 7.27(d, 4H, -CH2), 7.27(d, 2H, -CH2), 4.39(d, 2H, OCH2), 3.38(s, 2H, >CH2), 2.24(s, 2H, -CH2)

13C NMR (75 MHz, CDCl3): δ 199.3, 167.2, 138.0, 126.9, 124.3, 63.8, 49.7, 28.9

HRMS (EI) Calc. M: 206.2277, Found: 206.0886

(h)

Heterocyclic acetoacetates such as Furan-2-ylmethyl oxobutanoate, pyrrol-2-ylmethyl 3-oxobutanoate, Thiophen-2-ylmethyl oxobutanoate, Indol-2-ylmethyl oxobutanoate are also synthesized when heterocyclic compounds such as furan-2-ylmethanol Pyrrol-2-ylmethanol. Thiophen-2-ylmethanol, Indol-2-yl methanol using FAS or ANS catalysts according to the procedures described above under conventional and non-conventional conditions.

**Furan-2-ylmethyl 3-oxobutanoate**: 1HNMR (300MHz, CDCl3): δ 7.69(m, 4H, Ar-H), 5.08(s, 2H, -OCH2), 3.40(s, 2H, >CH2), 2.24(s, 2H, -CH2)

13C NMR (75 MHz, CDCl3): 198.4, 166.6, 151.8, 142.8, 109.6, 106.8, 59.8, 48.8, 29.9

HRMS (EI) Calc. M: 182.1633, Found: 182.0513

(g)

**Pyrrol-2-yl methyl 3-oxobutanoate:** 1HNMR (300MHz, CDCl3): δ 6.58(m, 4H, Ar-H), 5.87(d 2H, CH2) 5.0(s –NH) 5.39(s, 2H, -OCH2), 3.40(s, 2H, >CH2), 2.24(s, 2H, -CH2)

13C NMR (75 MHz, CDCl3): 199.9, 167.7, 131.8, 116.7, 107.5, 105.1, 60.0, 49.7, 29.1

HRMS (EI) Calc. M: 181.1779, Found: 181.0699

 (i)

**Thiophen-2-yl methyl 3-oxobutanoate:** 1HNMR (300MHz, CDCl3): δ 7.33 (m, 4H, Ar-H),

6.88 (s, 2H, >CH2), 5.36 (s, 2H, -OCH2), 3.39(s, 2H >CH2), 2.21(d, 2H, >CH2)

13C NMR (75 MHz, CDCl3): 199.5, 167.7, 137.5, 126.8, 126.0, 60.0, 49.8, 30.0

HRMS (EI) Calc. M: 198.1774, Found: 198.0269

 (j)

**Indol-2-yl methyl 3-oxobutanoate:** 1HNMR (300MHz, CDCl3): δ 7.30(m, 2H, Ar-H), 6.94(d, 4H, -CH2), 7.04(s, 2H, -CH2), 6.05(d, 2H, -CH2), 5.44 (s, 2H, OCH2), 3.37(s, 2H, >CH2), 2.20(s, 2H, -CH2)

13C NMR (75 MHz, CDCl3): δ 199.6, 167.6, 135.8, 126.7, 120.9, 119.6, 110.4, 98.8, 61.7, 50.0, 30.0

HRMS (EI) Calc. M: 231.2420, Found: 231.0655

(k)