

Synthesis, antimicrobial, anti-inflammatory, antioxidant and cytotoxicity of new pyrimidine and pyrimidopyrimidine derivatives

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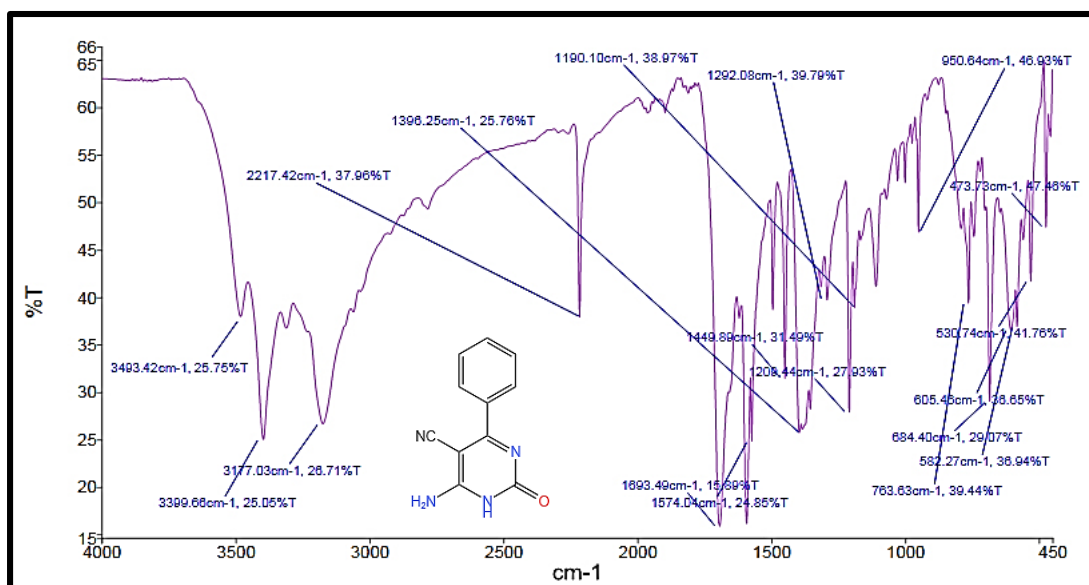


Fig 1: IR spectrum of compound 1a

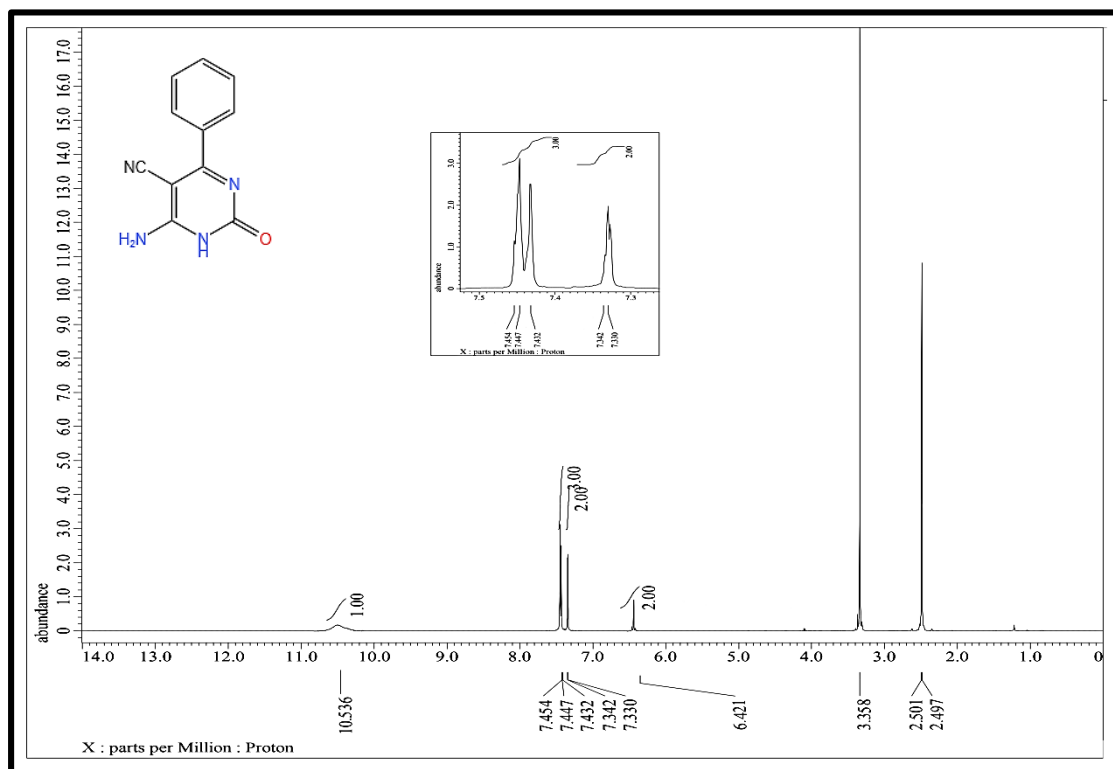


Fig 2: ^1H -NMR spectrum of compound 1a

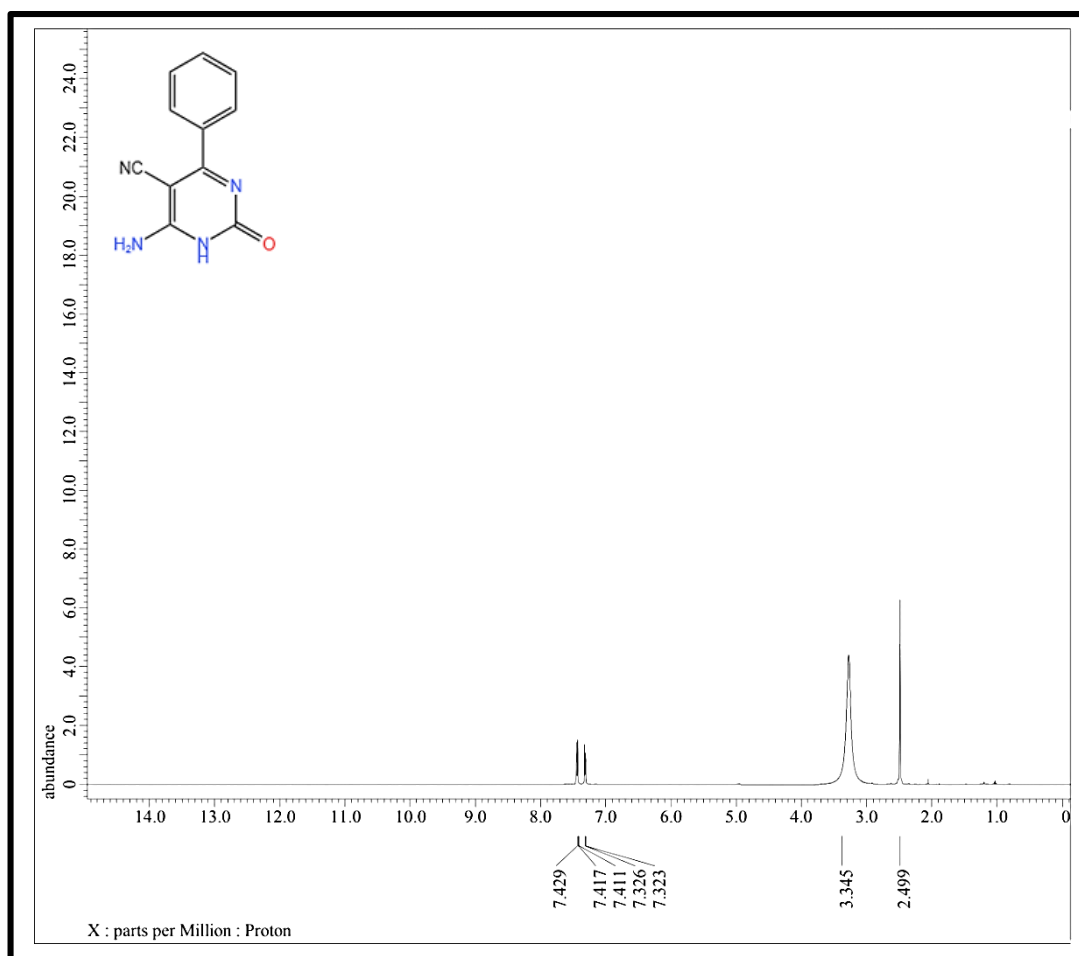


Fig 3: ¹H-NMR spectrum of compound 1a + D₂O

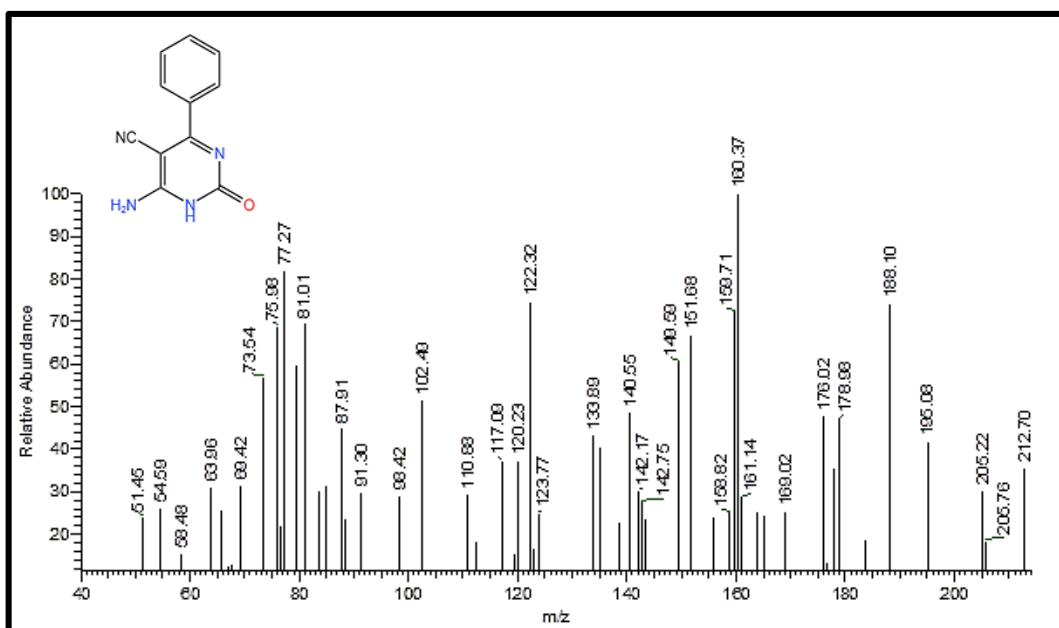


Fig 4: Mass spectrum of compound 1a

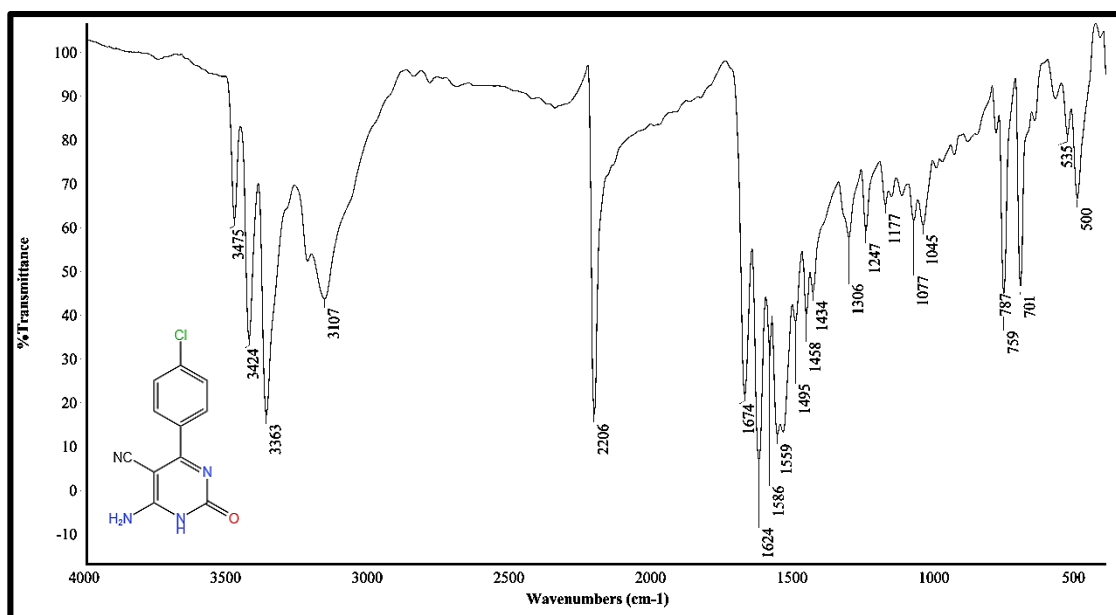


Fig 5: IR spectrum of compound 1b

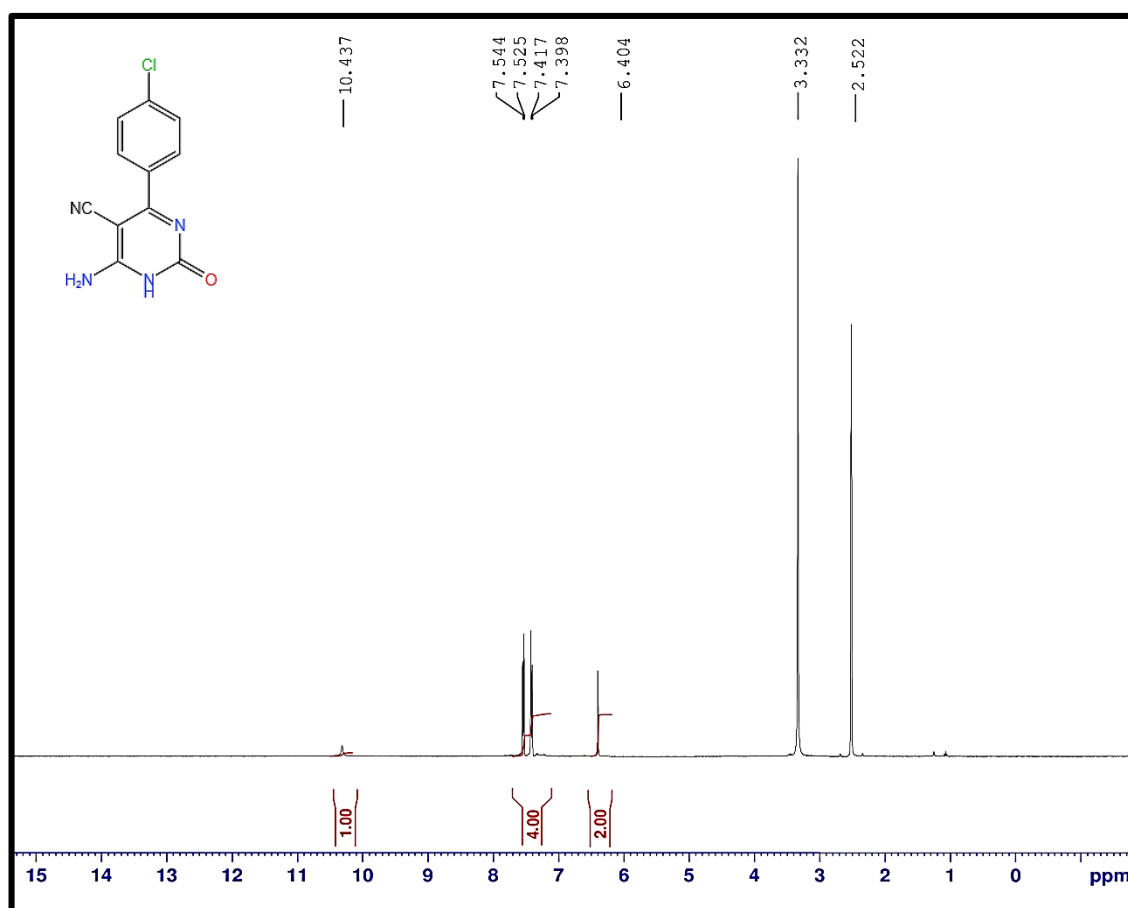


Fig 6: ¹H-NMR spectrum of compound 1b

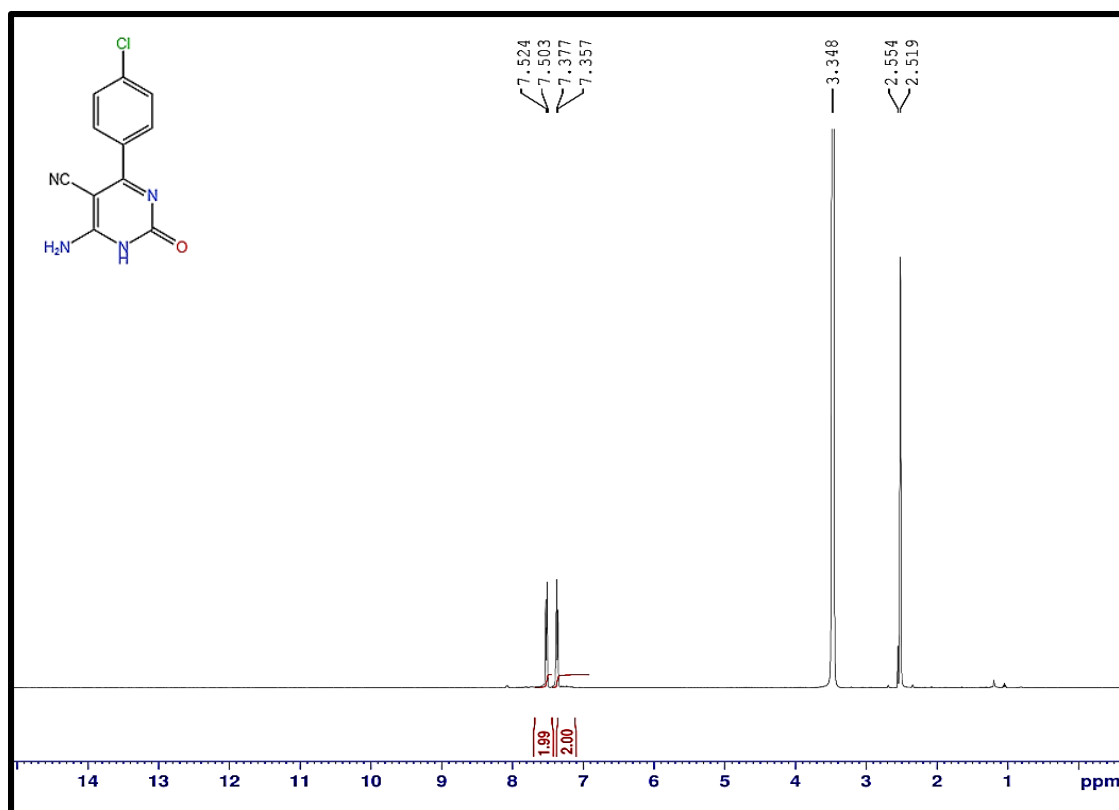


Fig 7: ¹H-NMR spectrum of compound 1b +D₂O

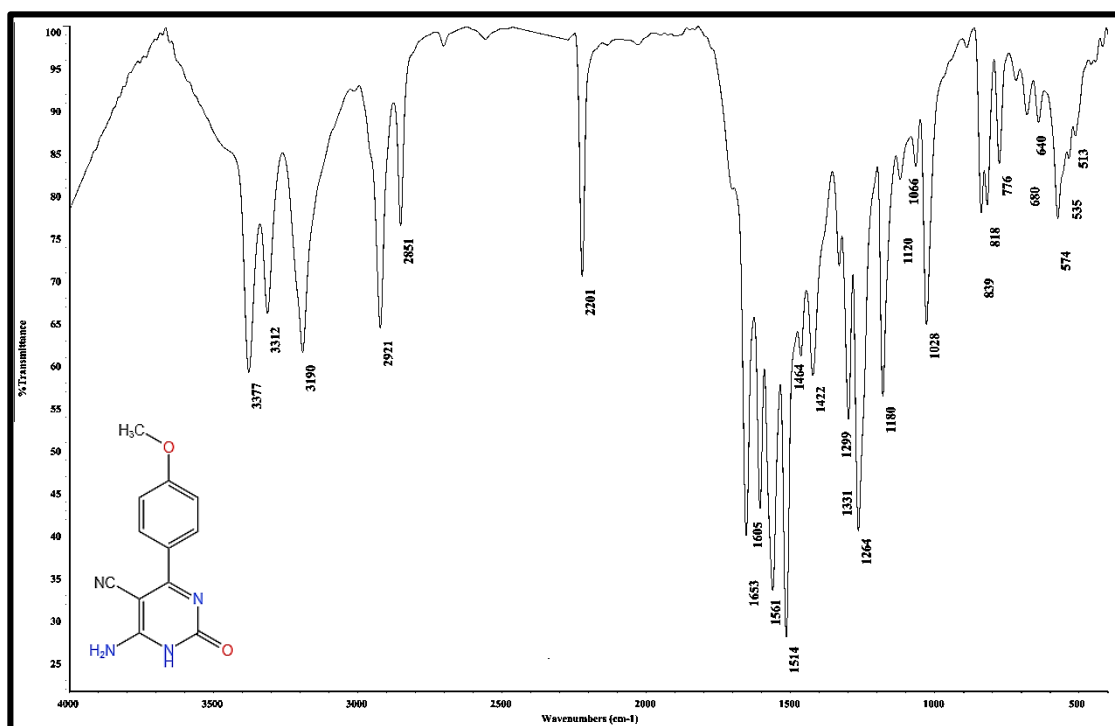


Fig 8: IR spectrum of compound 1c

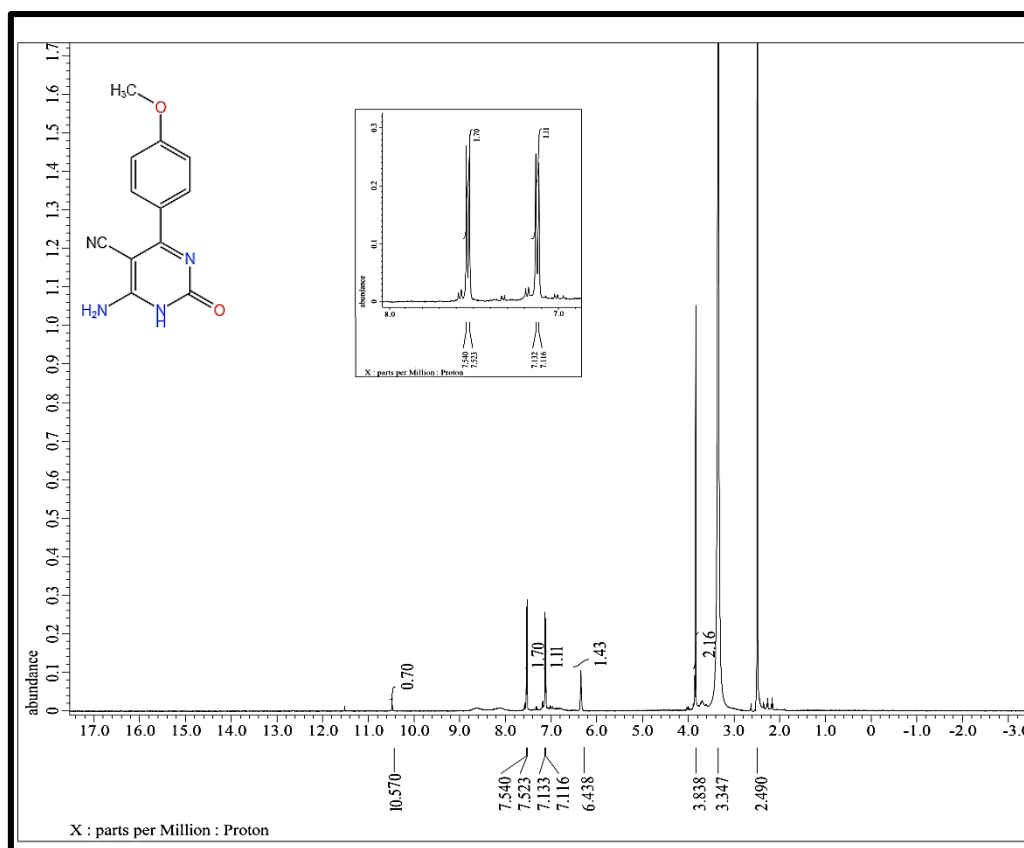


Fig 9: ¹H-NMR spectrum of compound 1c

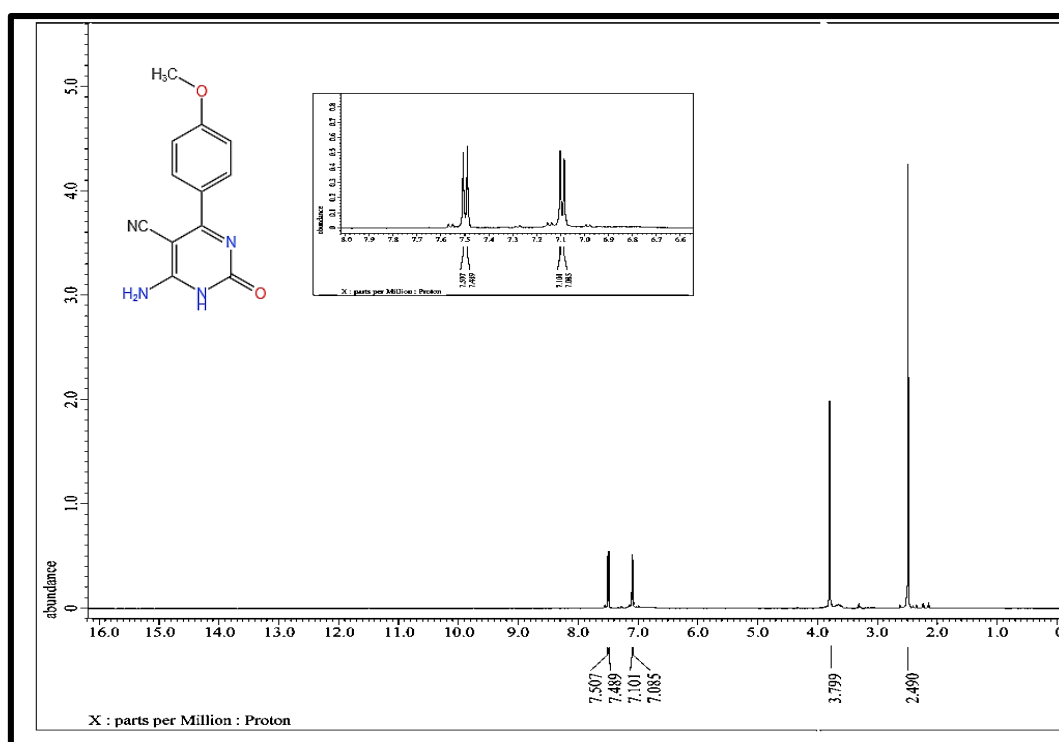


Fig 10: ¹H-NMR spectrum of compound 1c + D₂O

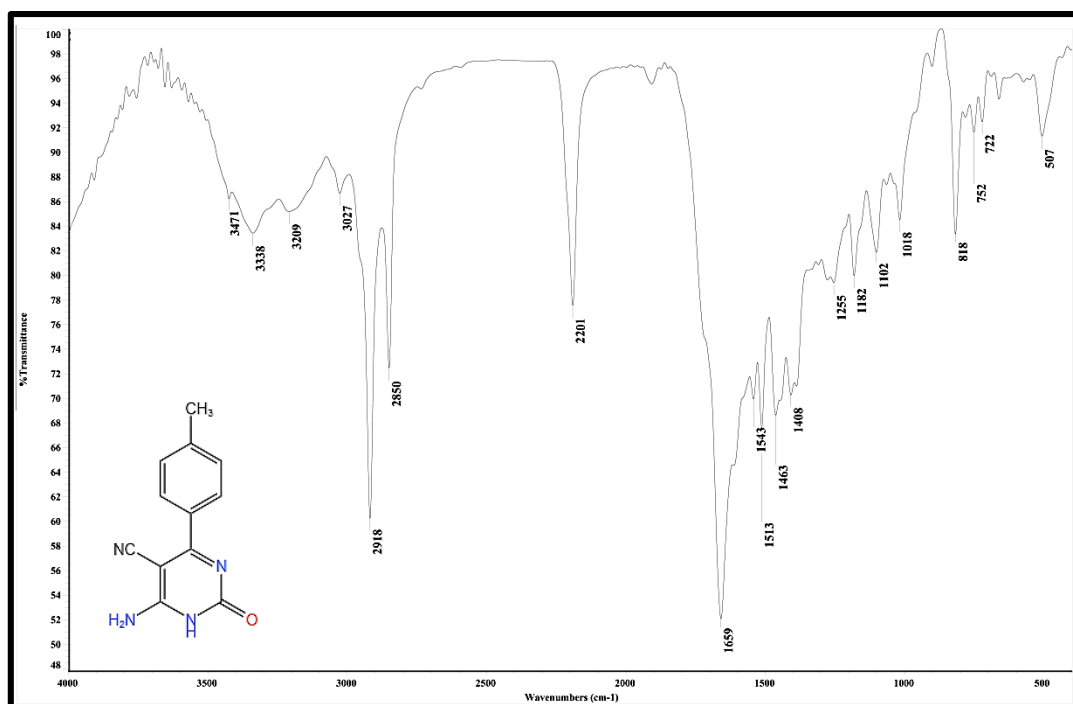


Fig 11: IR spectrum of compound 1d

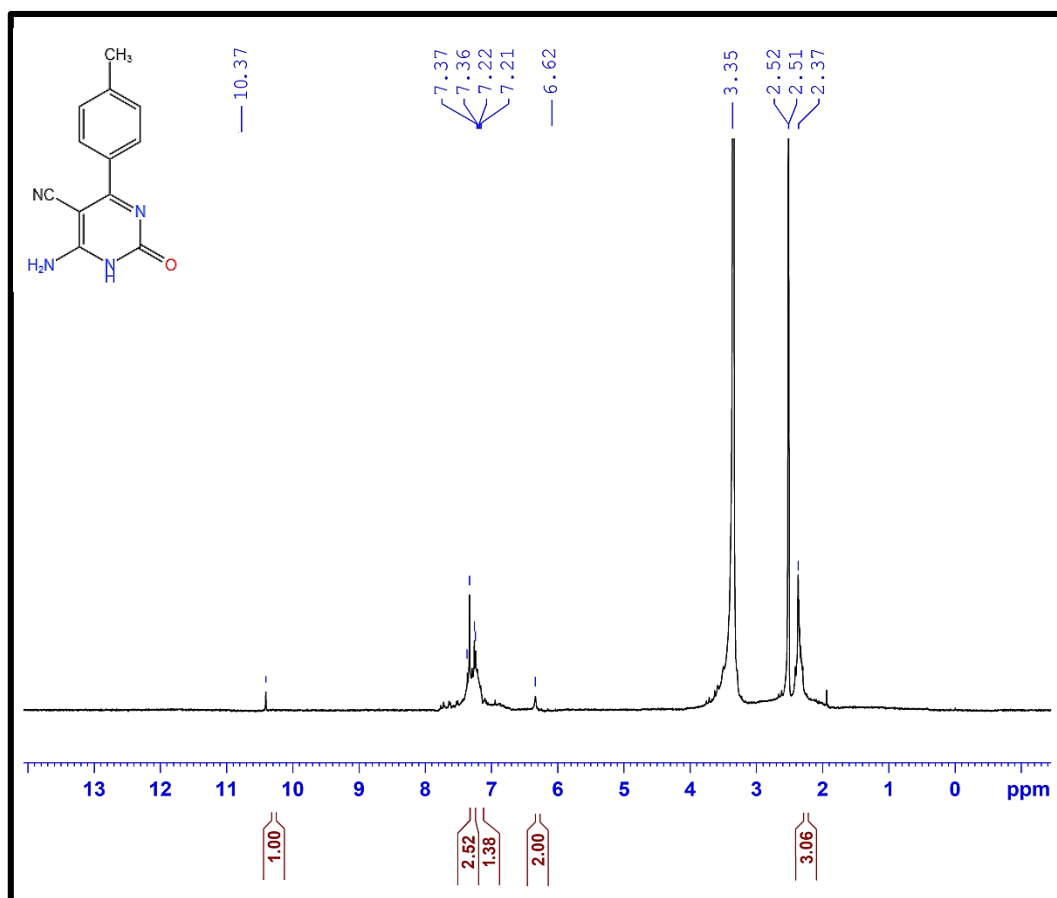


Fig 12: ^1H -NMR spectrum of compound 1d

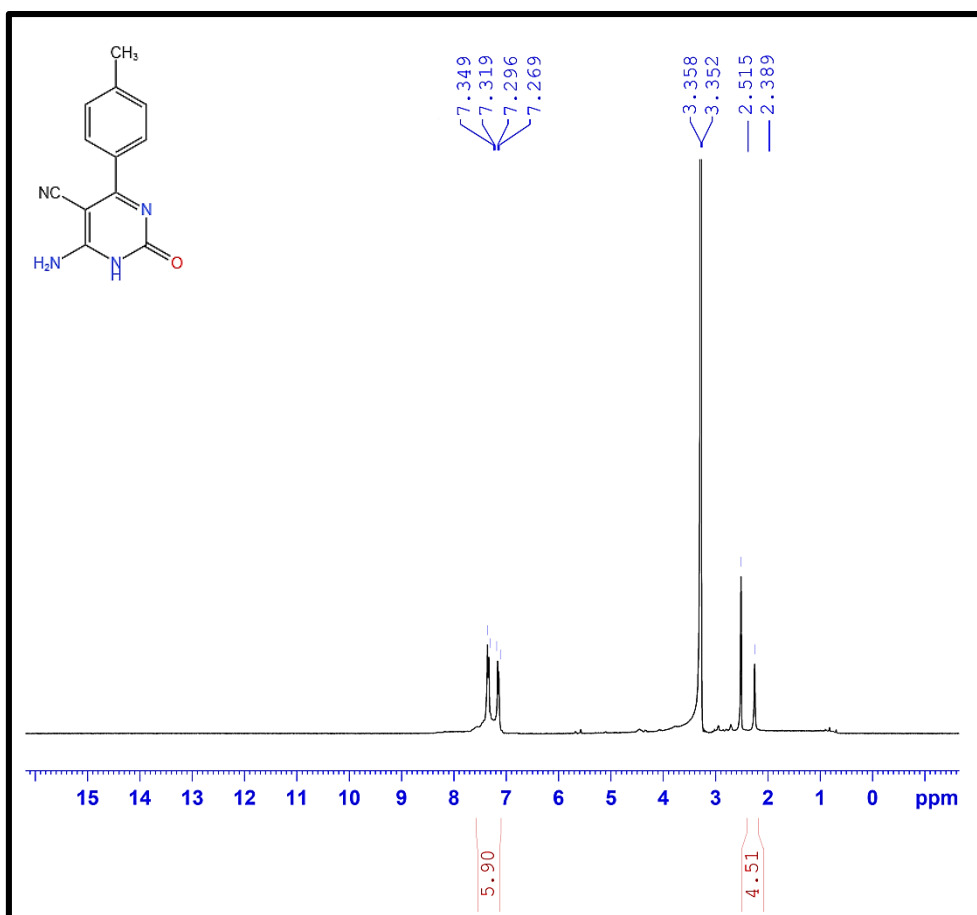


Fig 13: ¹H-NMR spectrum of compound 1d + D₂O

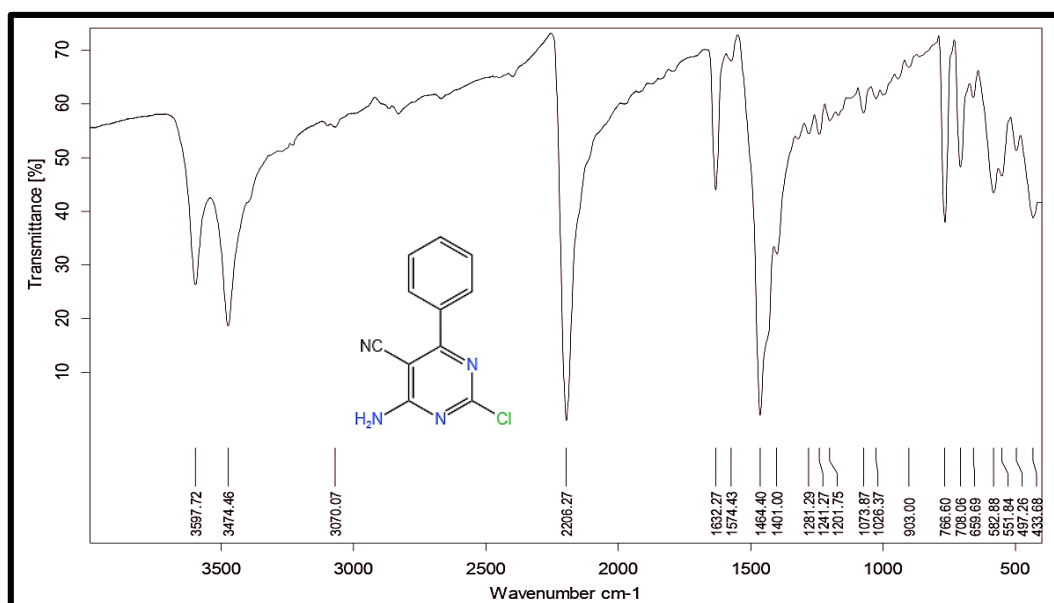


Fig 14: IR spectrum of compound 2a

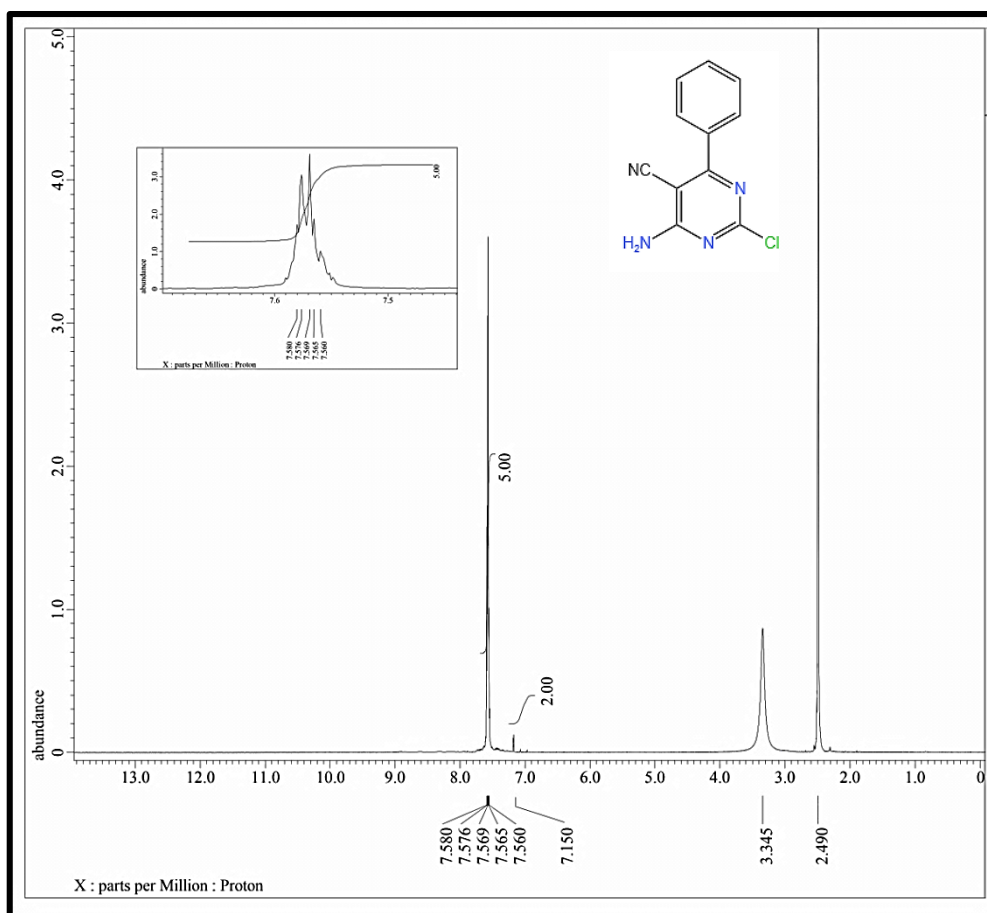


Fig 15: ¹H-NMR spectrum of compound 2a

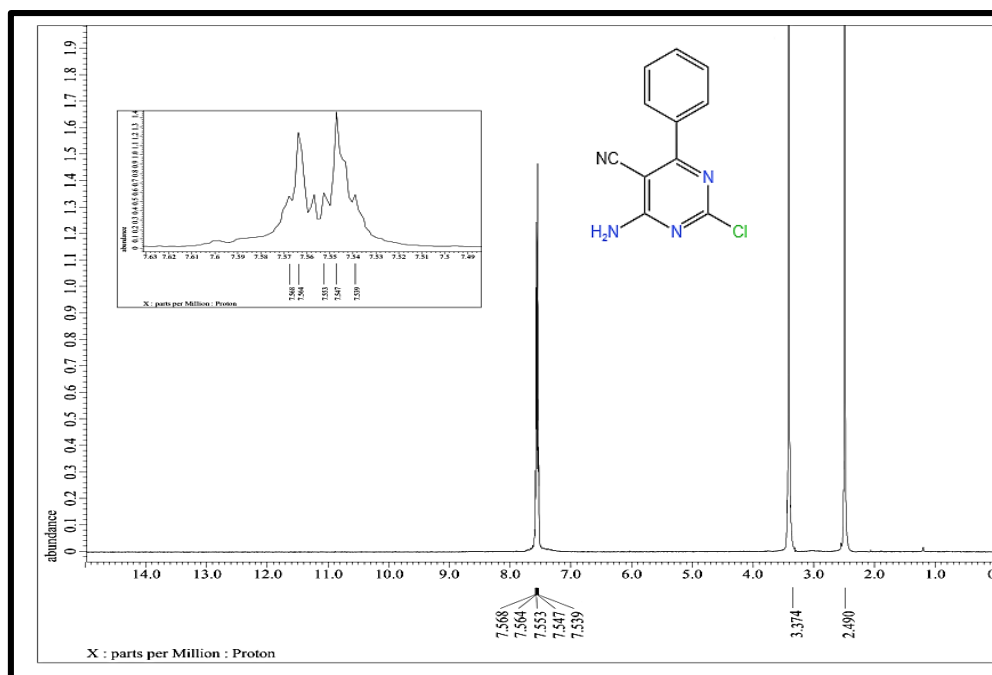


Fig 16: ¹H-NMR spectrum of compound 2a + D₂O

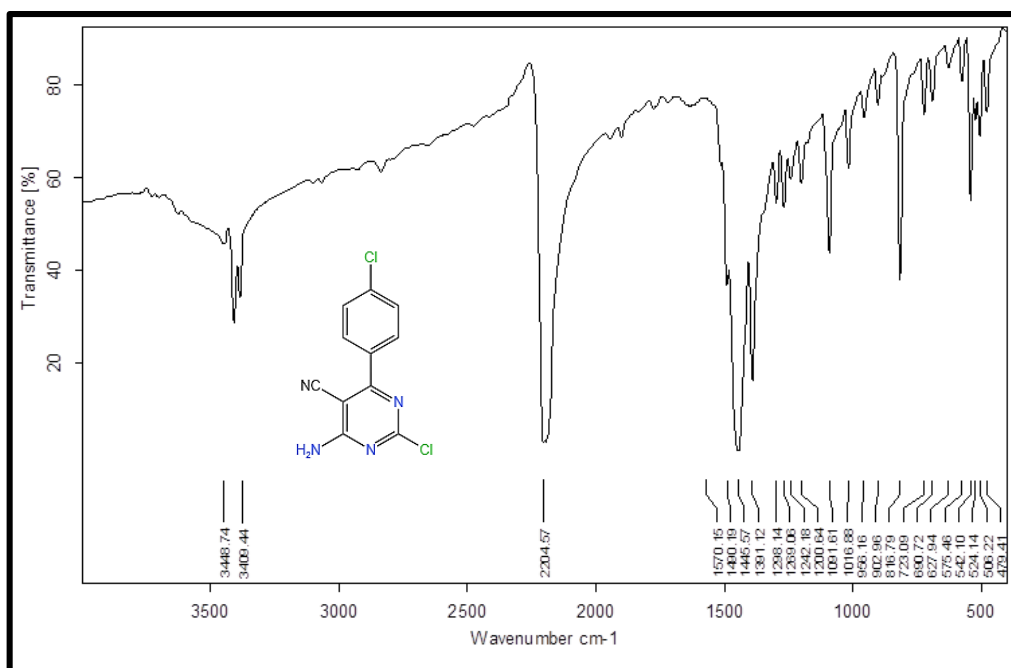


Fig 17: IR spectrum of compound 2b

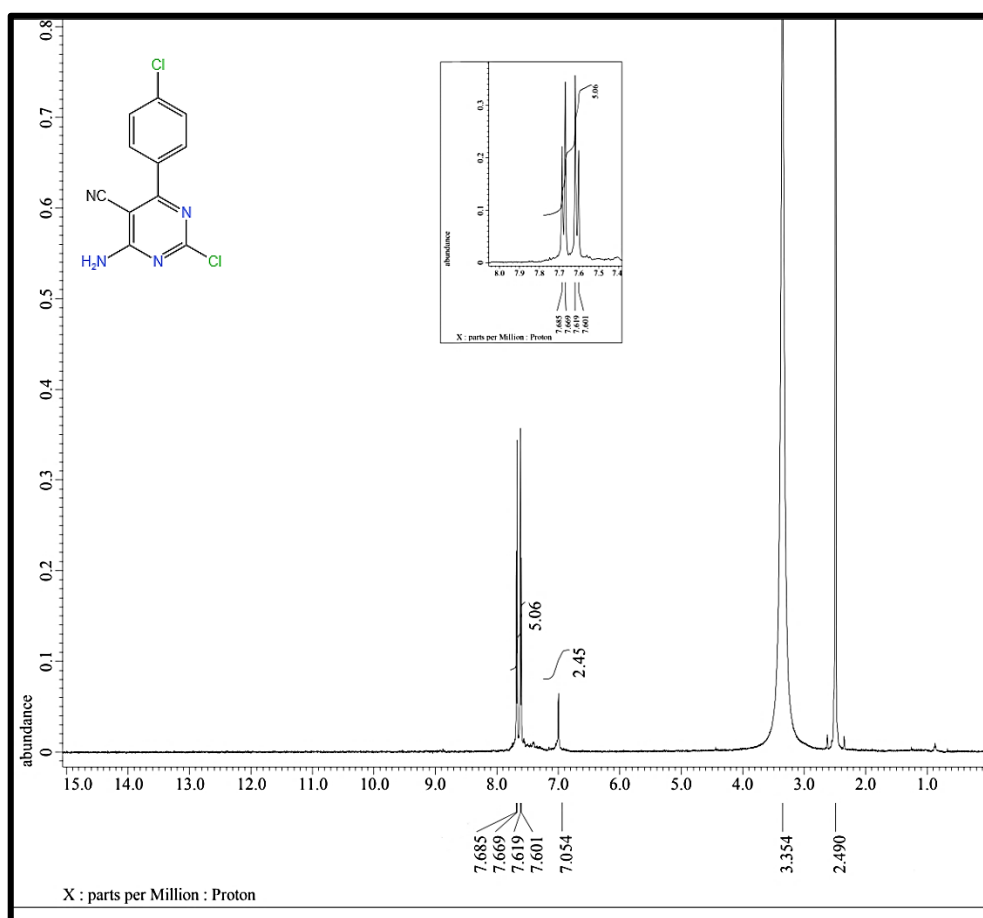


Fig 18: ¹H-NMR spectrum of compound 2b

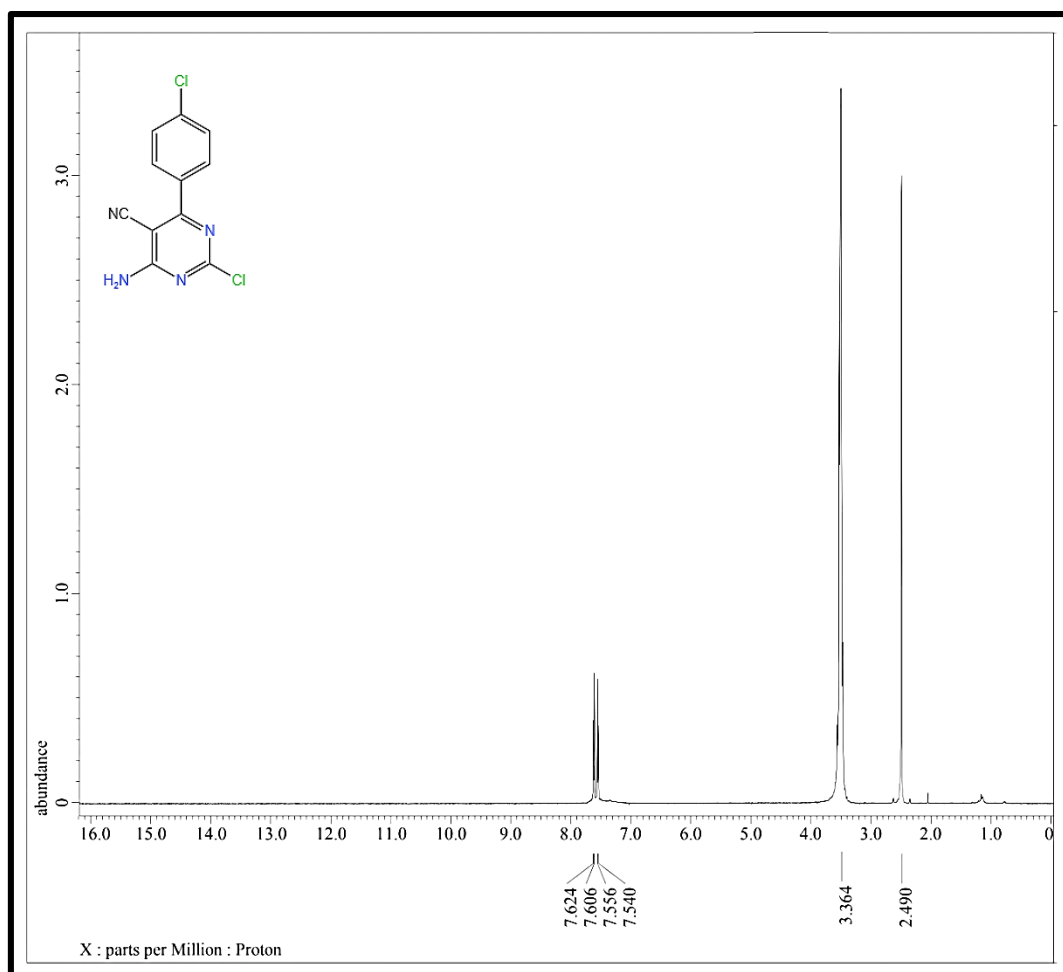


Fig 19: ¹H-NMR spectrum of compound 2b + D₂O

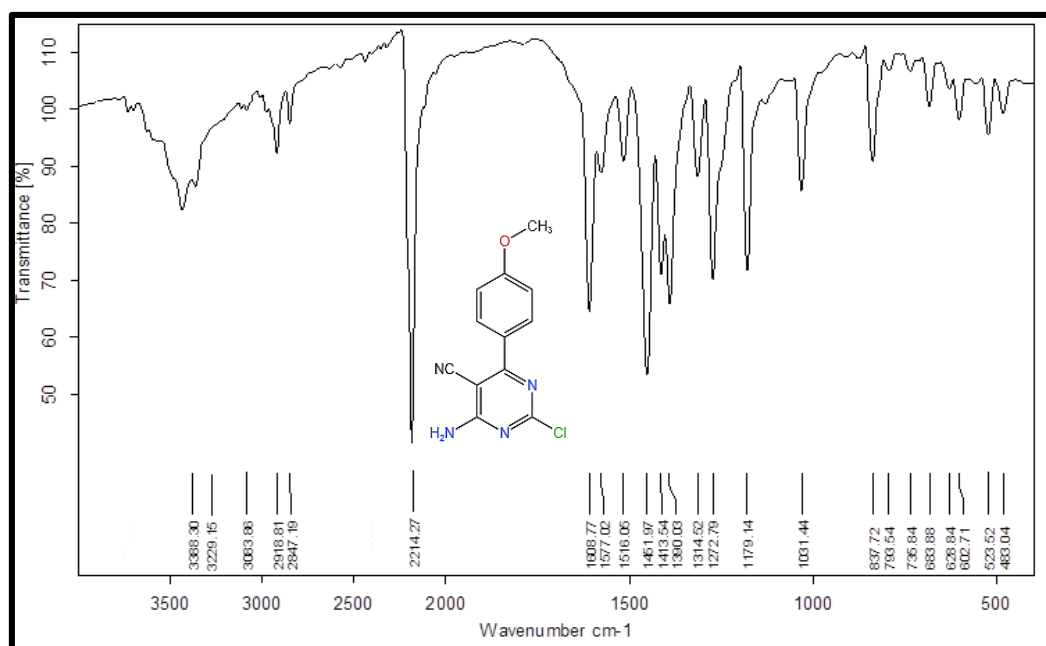


Fig 20: IR spectrum of compound 2c

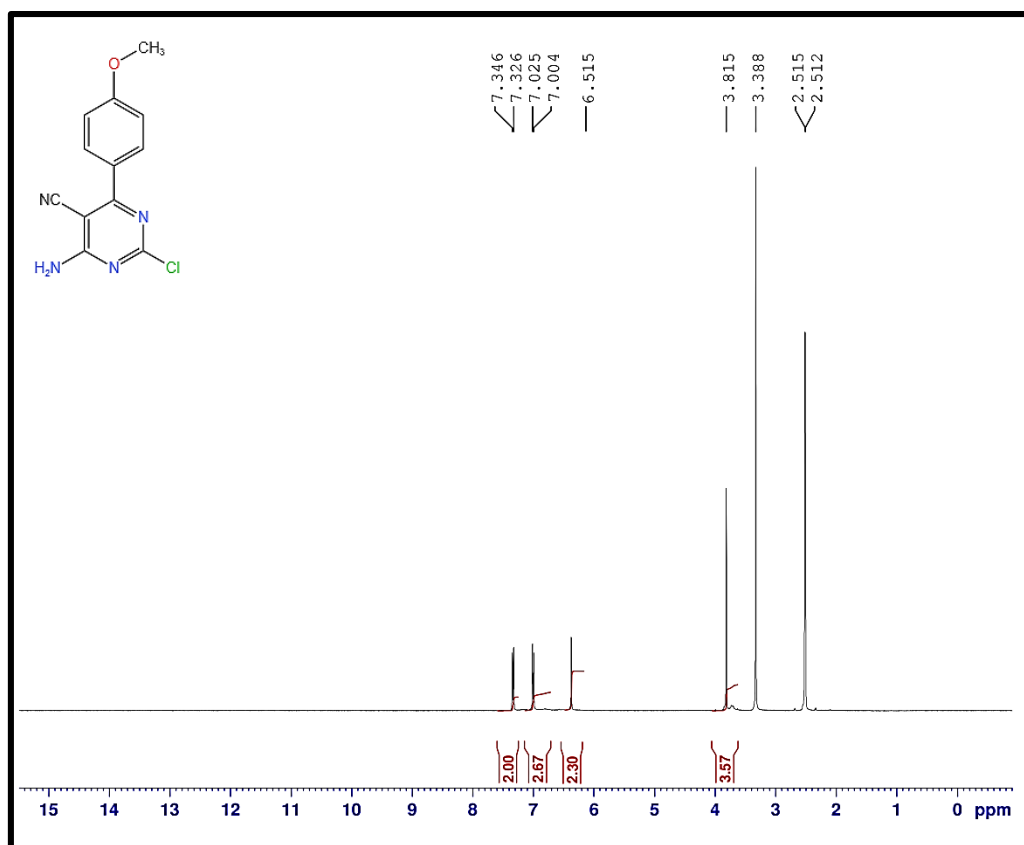


Fig 21: ¹H-NMR spectrum of compound 2c

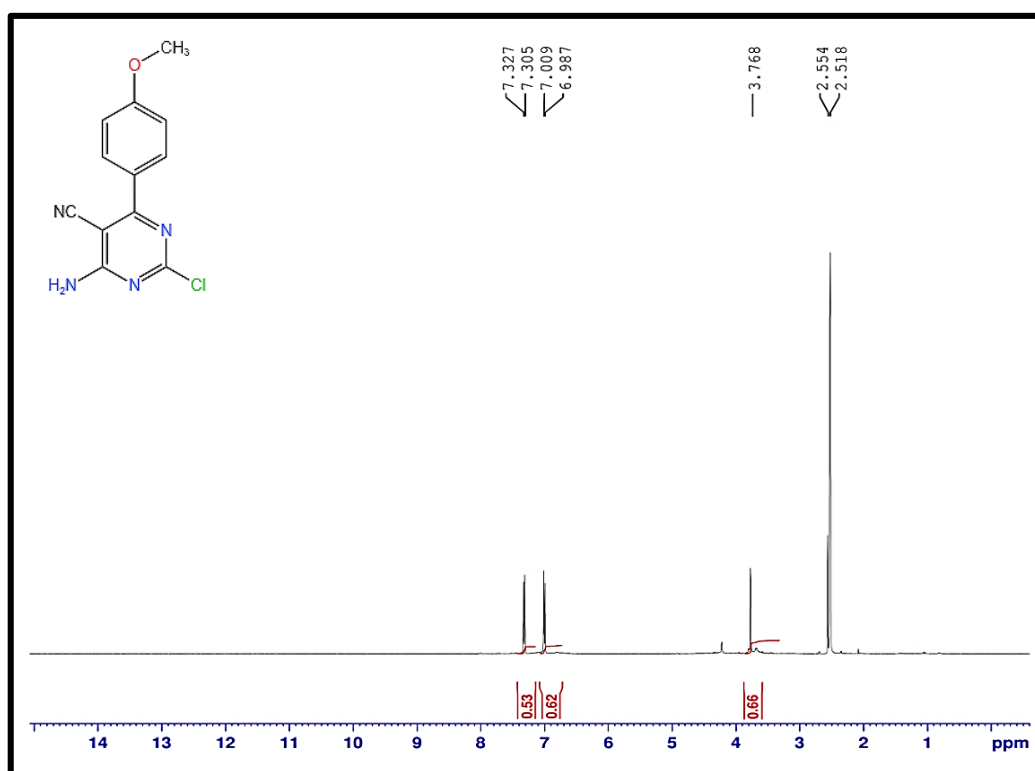


Fig 22: ¹H-NMR spectrum of compound 2c + D₂O

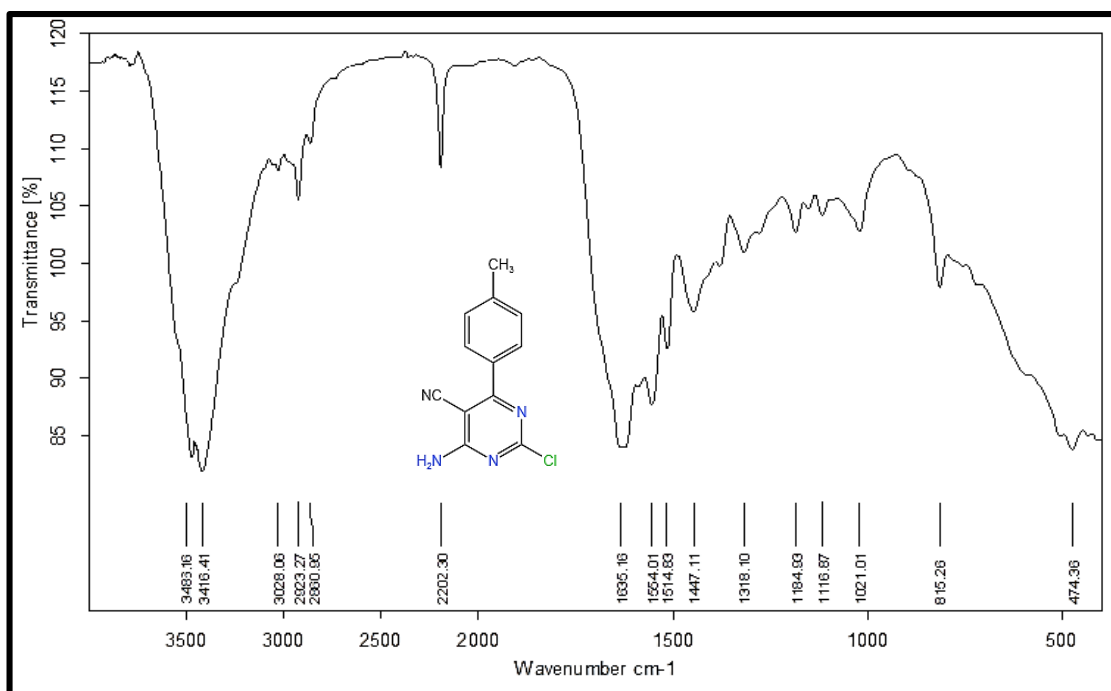


Fig 23: IR spectrum of compound 2d

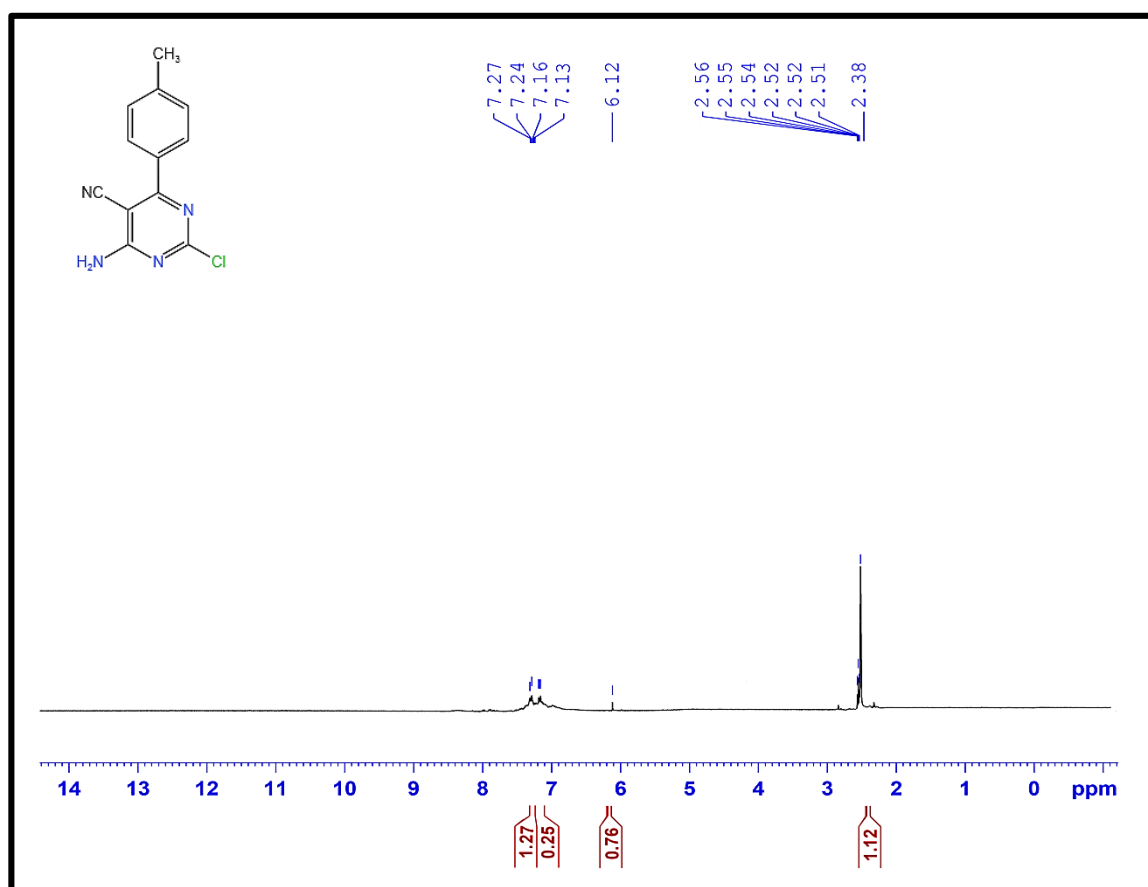


Fig 24: ¹H-NMR spectrum of compound 2d

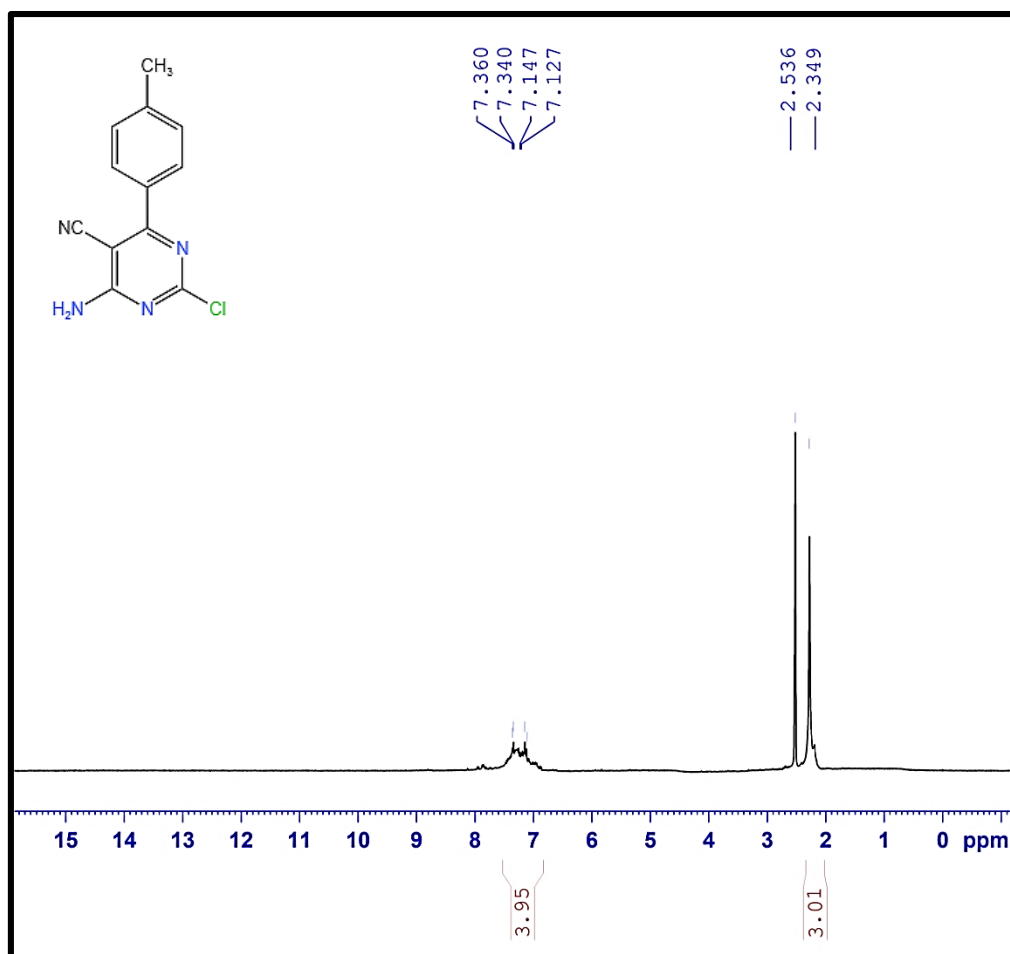


Fig 25: ¹H-NMR spectrum of compound 2d + D₂O

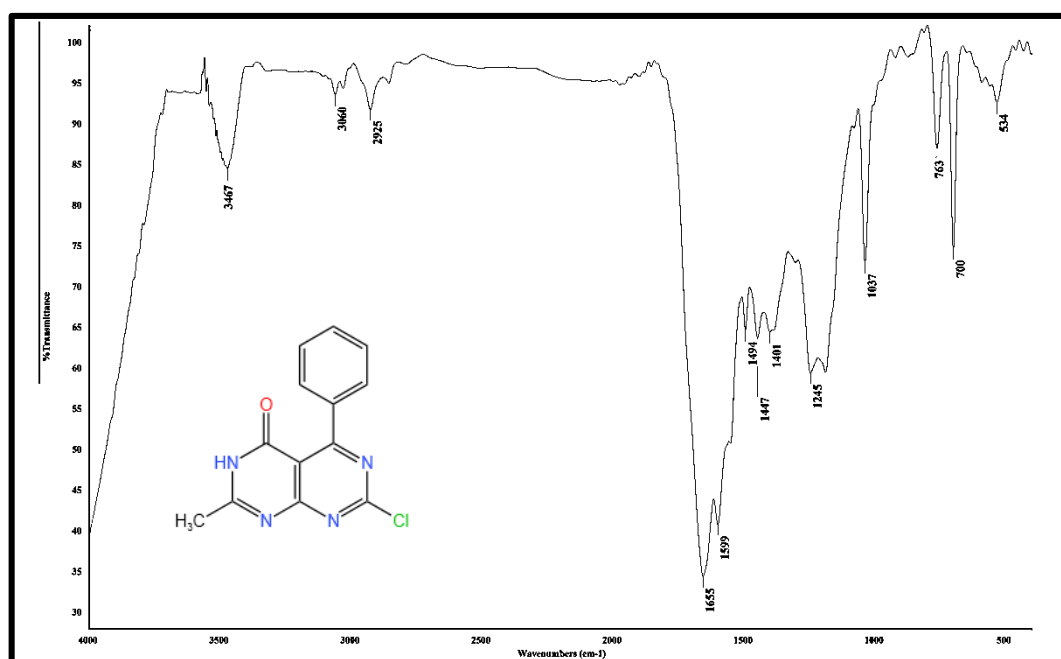


Fig 26: IR spectrum of compound 3a

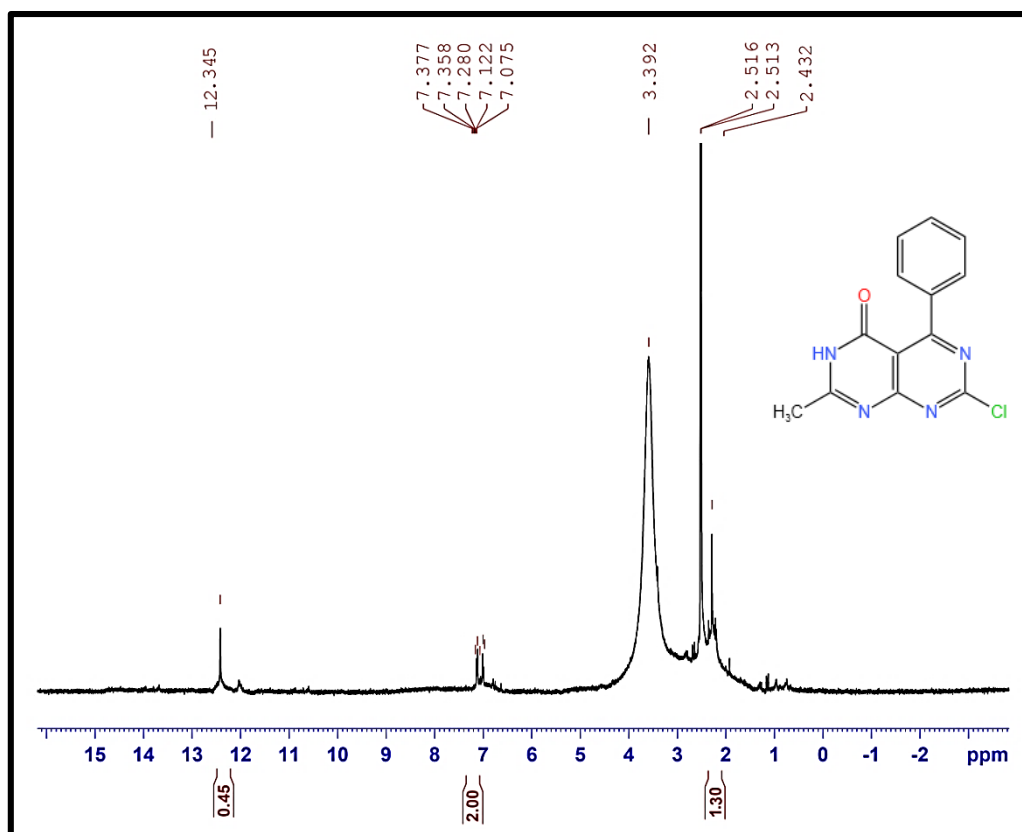


Fig 27: ¹H-NMR spectrum of compound 3a

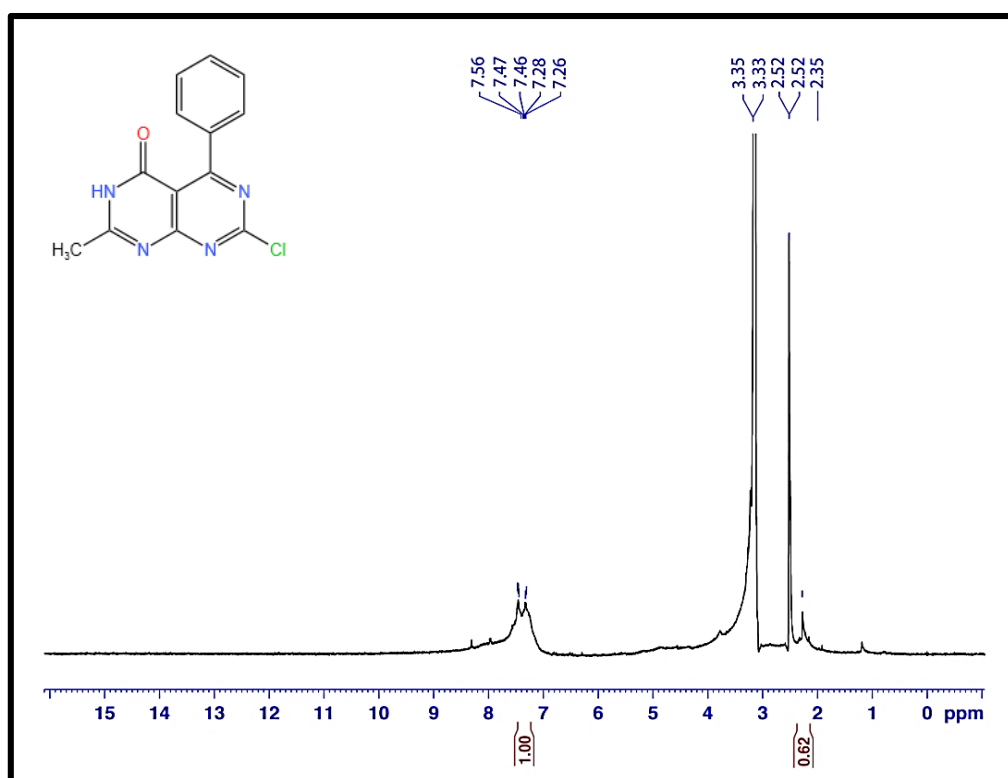


Fig 28: ¹H-NMR spectrum of compound 3a + D₂O

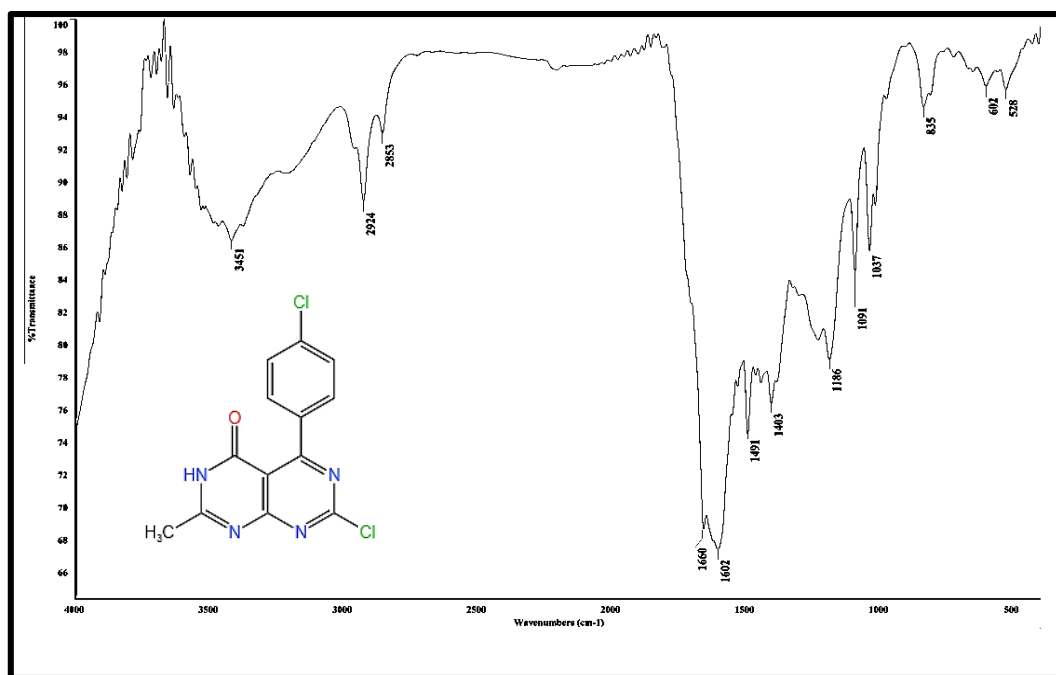


Fig 29: IR spectrum of compound 3b

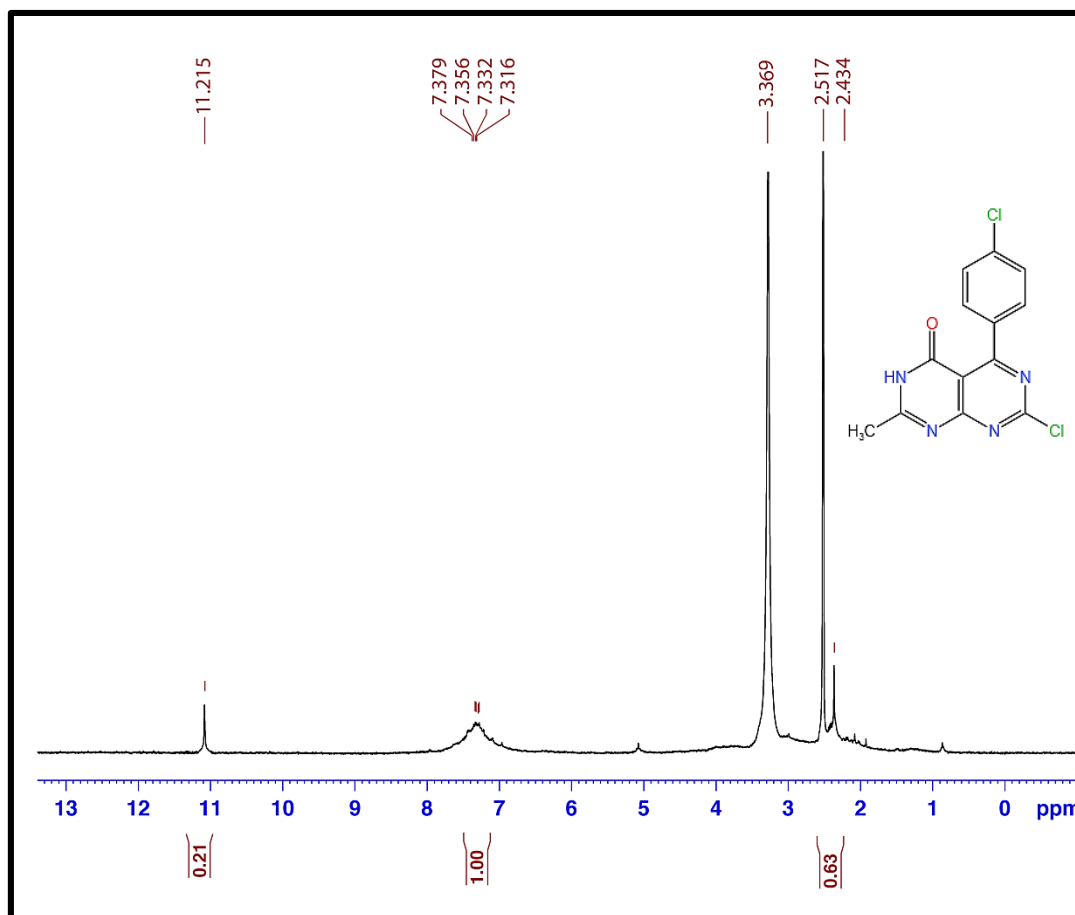


Fig 30: ¹H-NMR spectrum of compound 3b

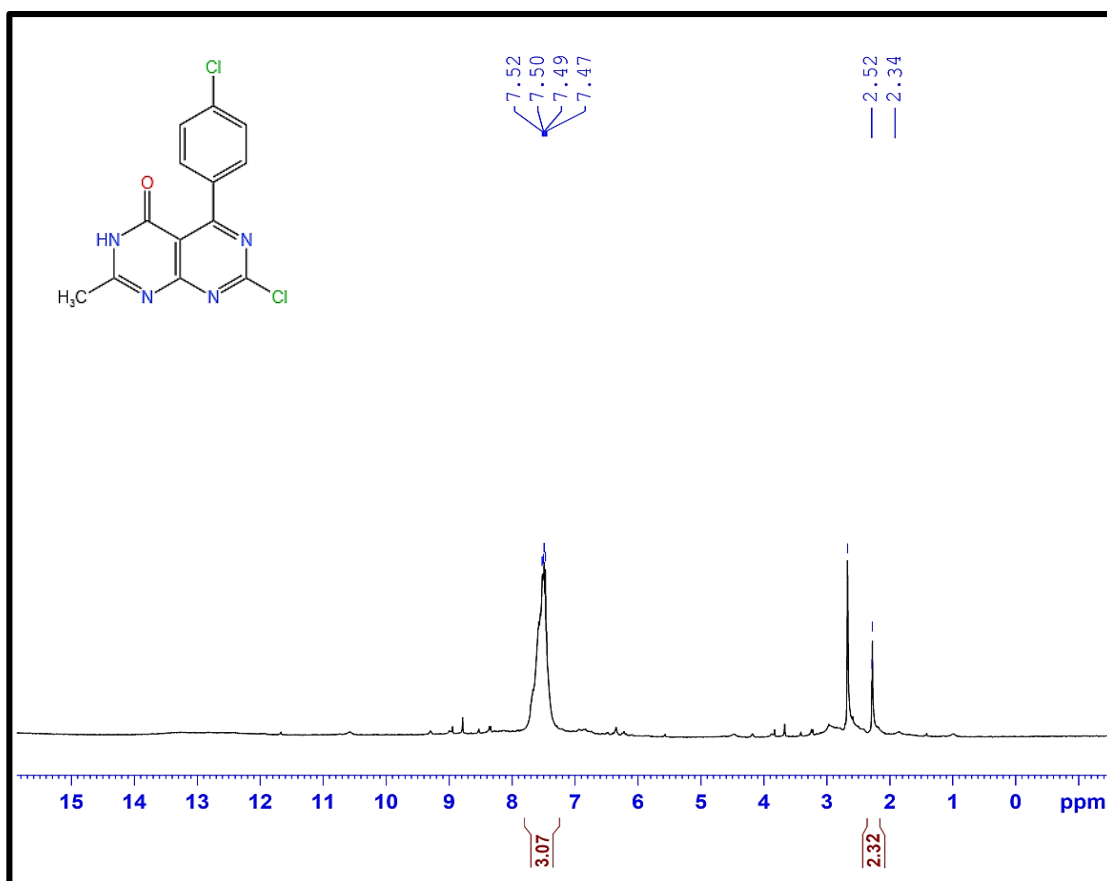


Fig 31: ¹H-NMR spectrum of compound 3b + D₂O

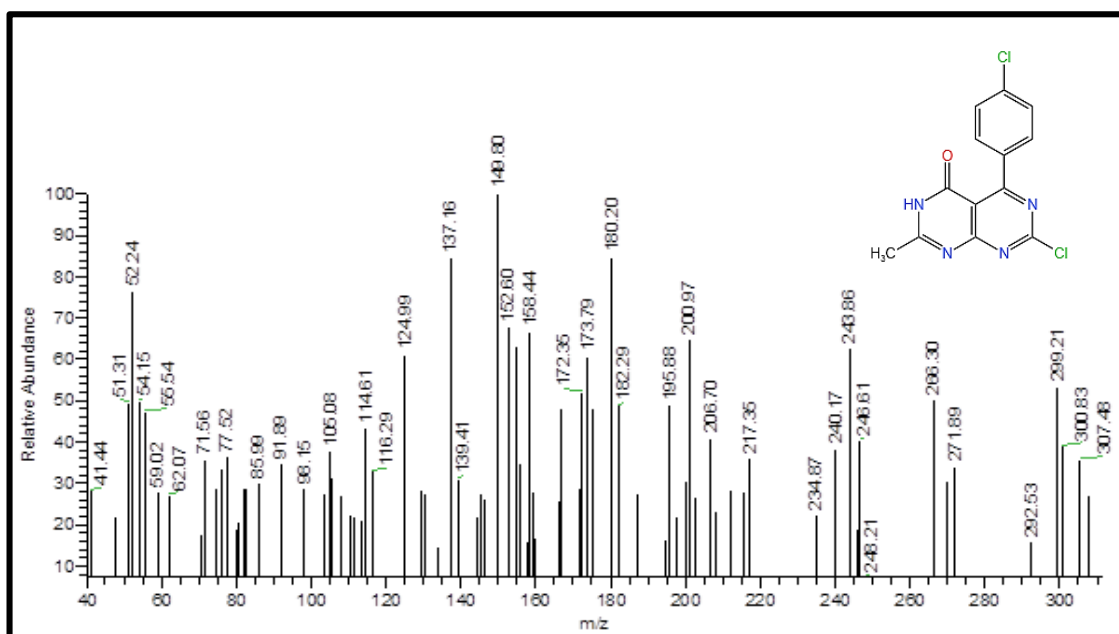


Fig 32: Mass spectrum of compound 3b

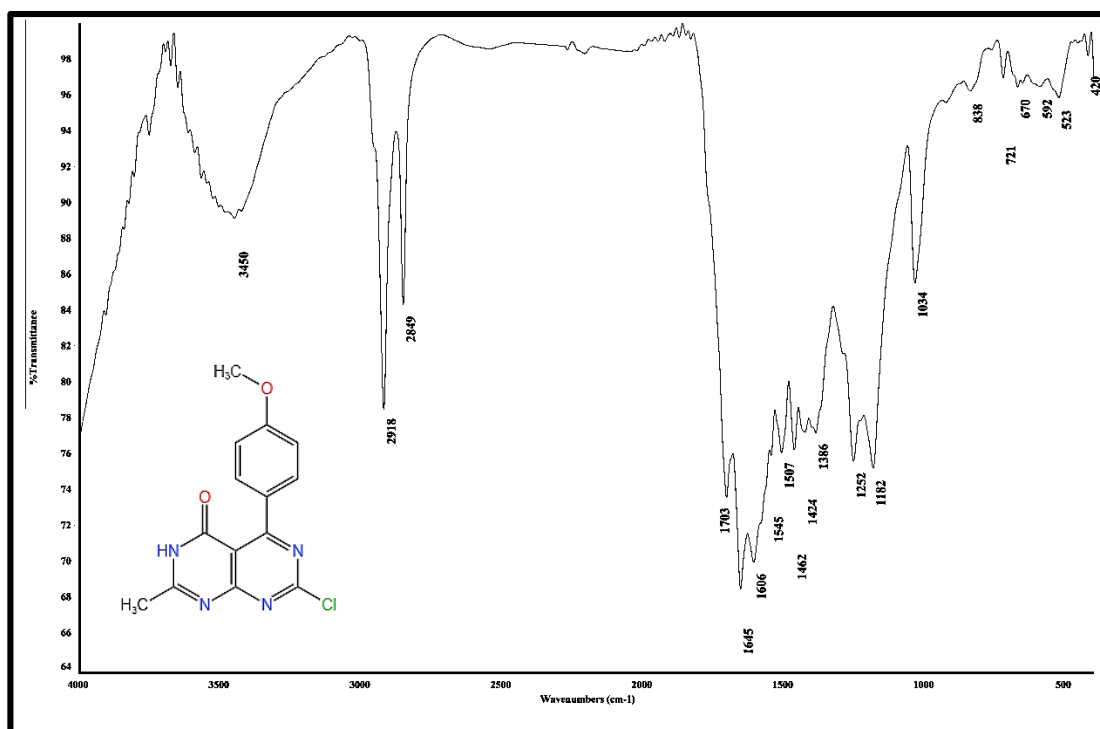


Fig 33: IR spectrum of compound 3c

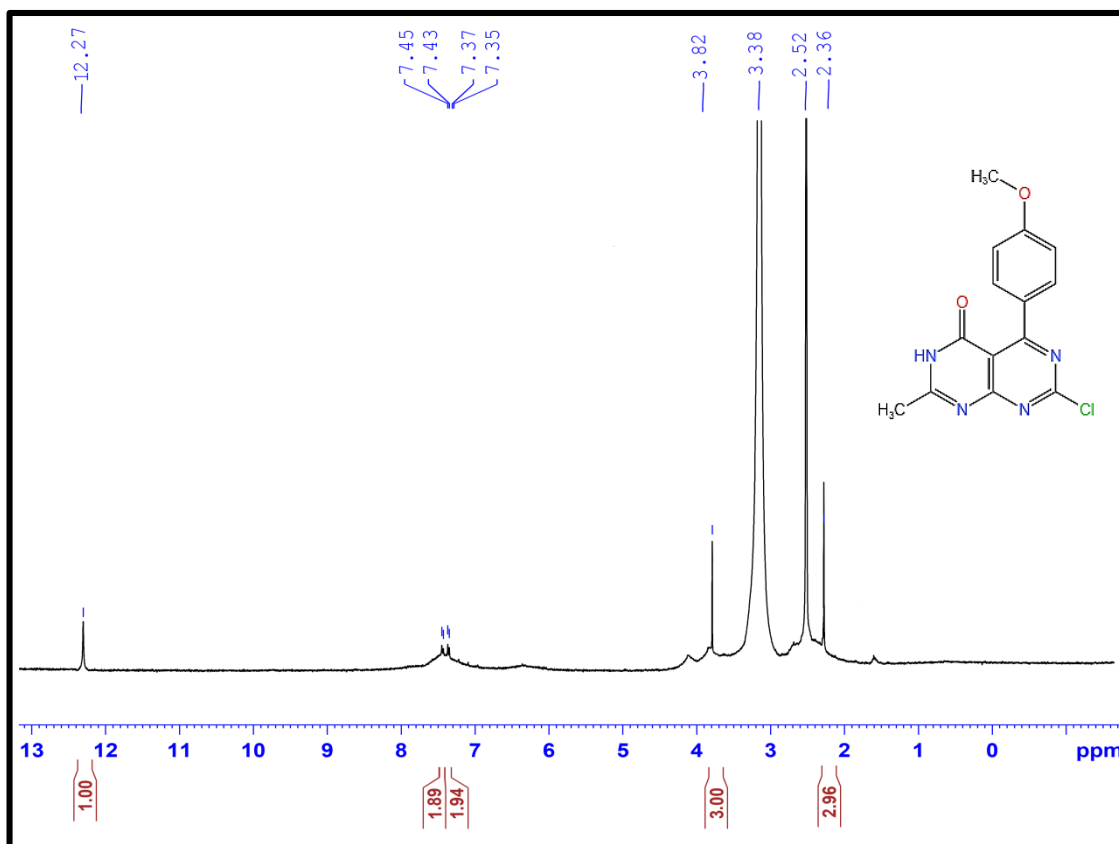


Fig 34: ¹H-NMR spectrum of compound 3c

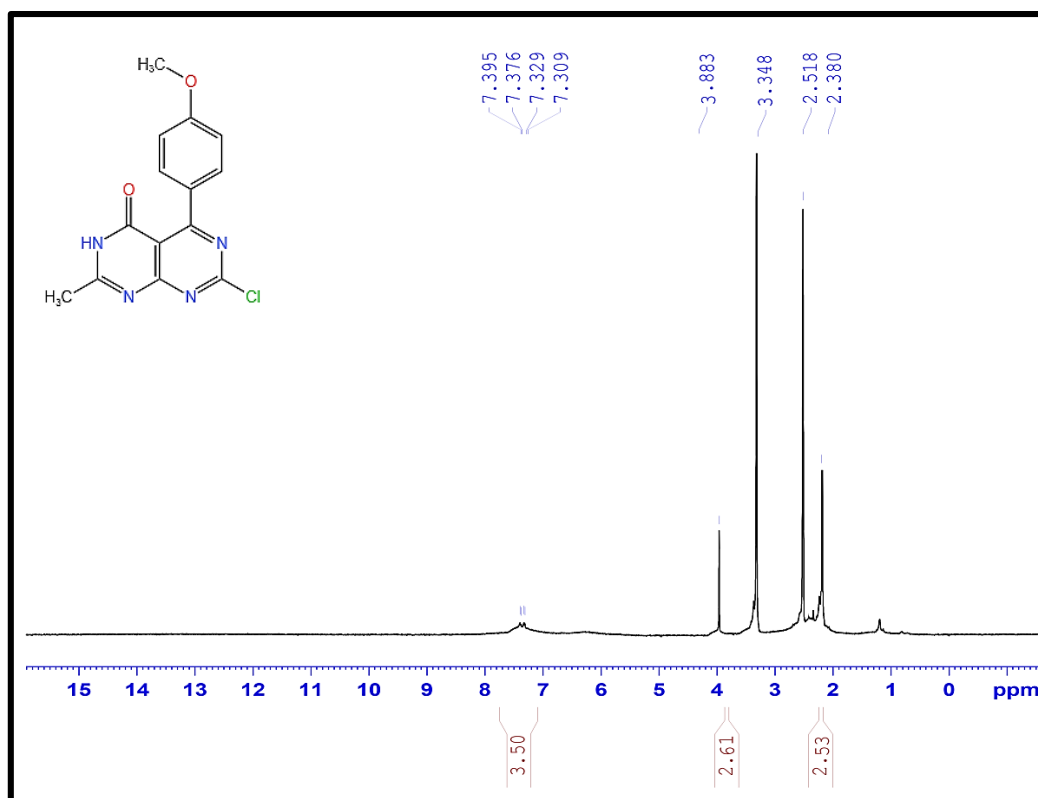


Fig 35: ¹H-NMR spectrum of compound 3c + D₂O

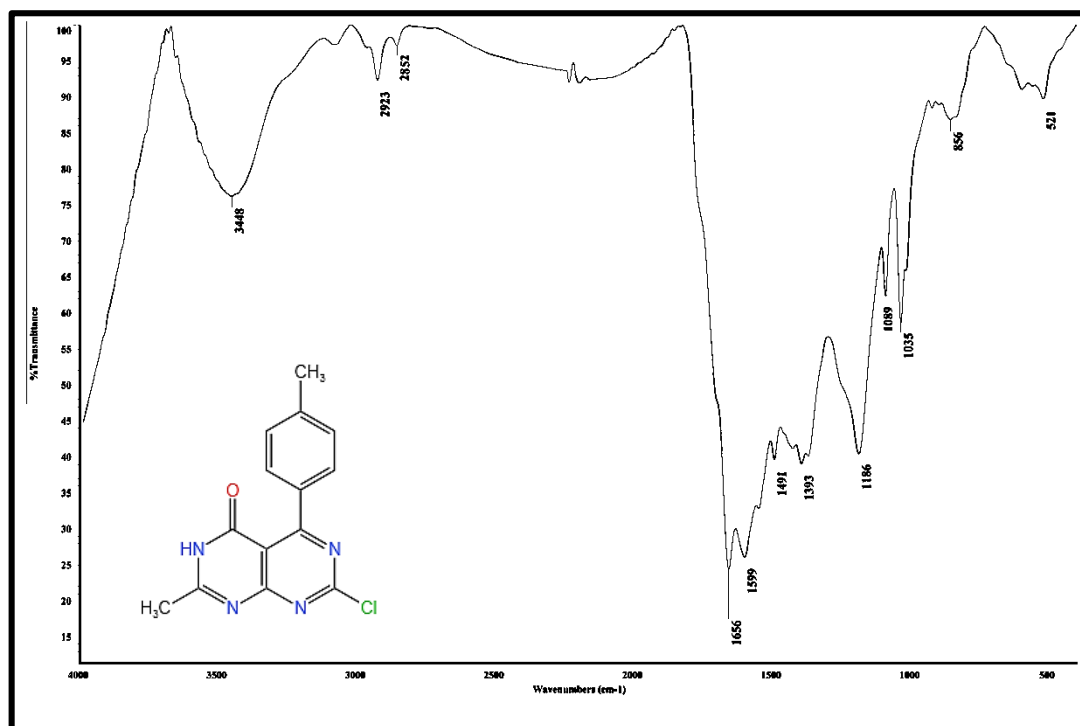


Fig 36: IR spectrum of compound 3d

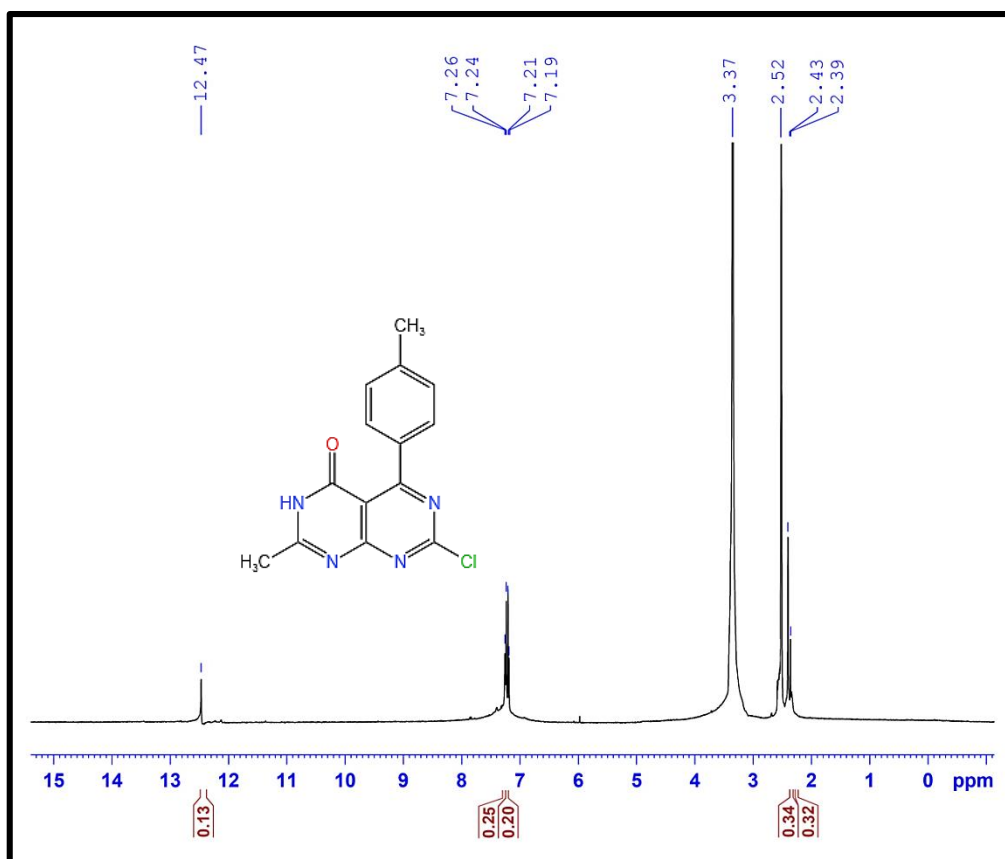


Fig 37: ¹H-NMR spectrum of compound 3d

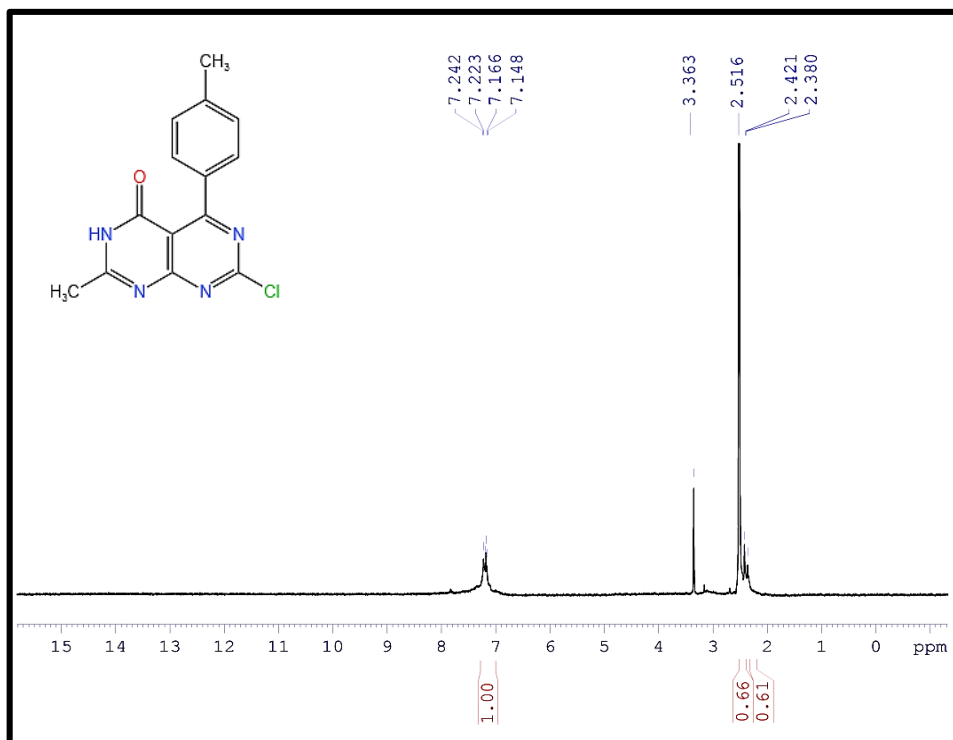


Fig 38: ¹H-NMR spectrum of compound 3d + D₂O

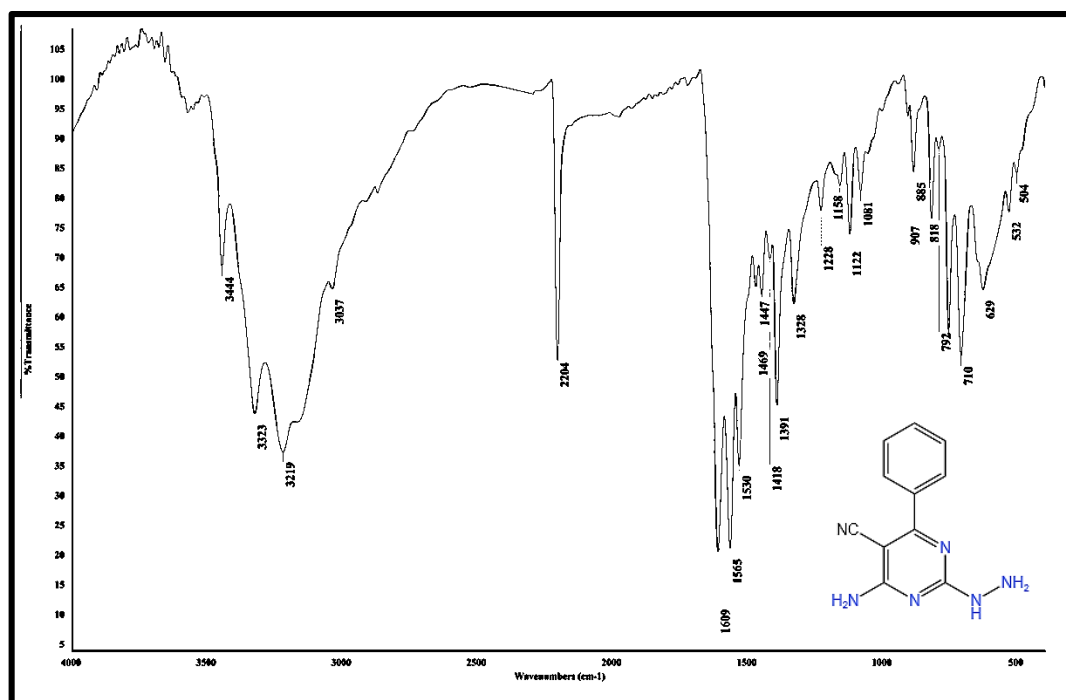


Fig 39: IR spectrum of compound 4a

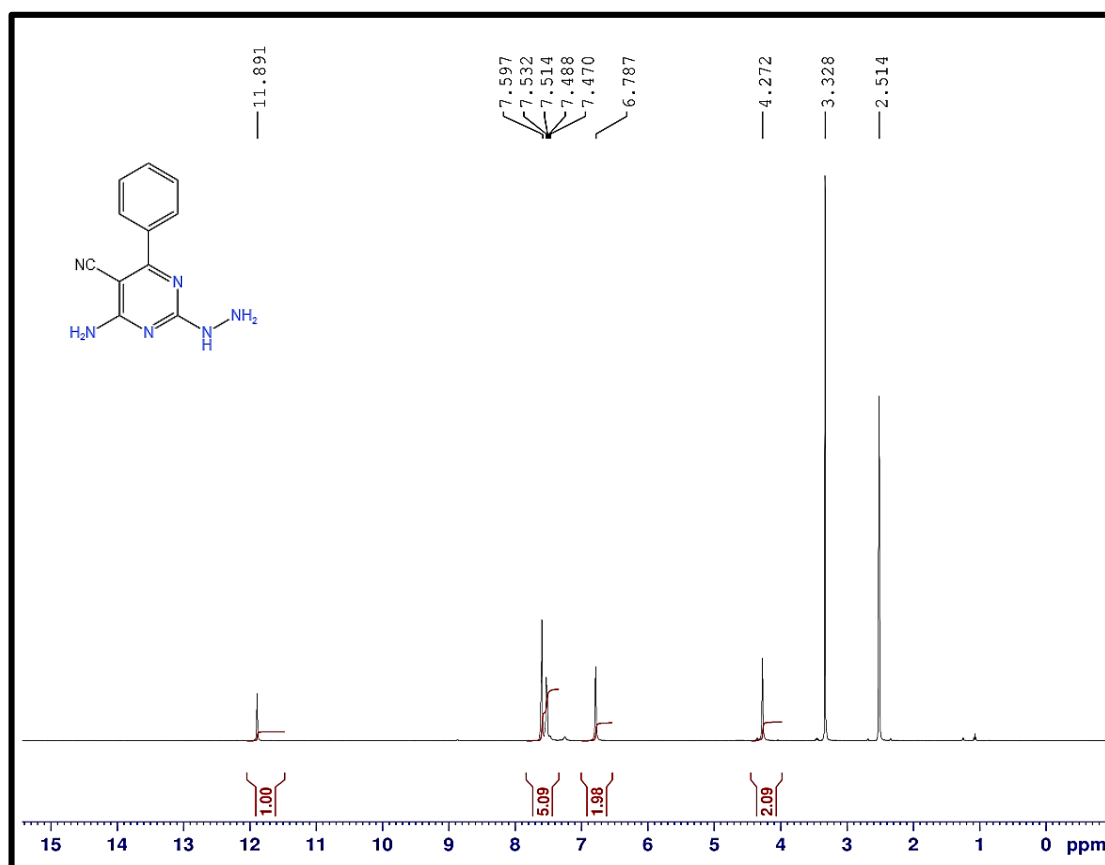


Fig 40: ¹H-NMR spectrum of compound 4a

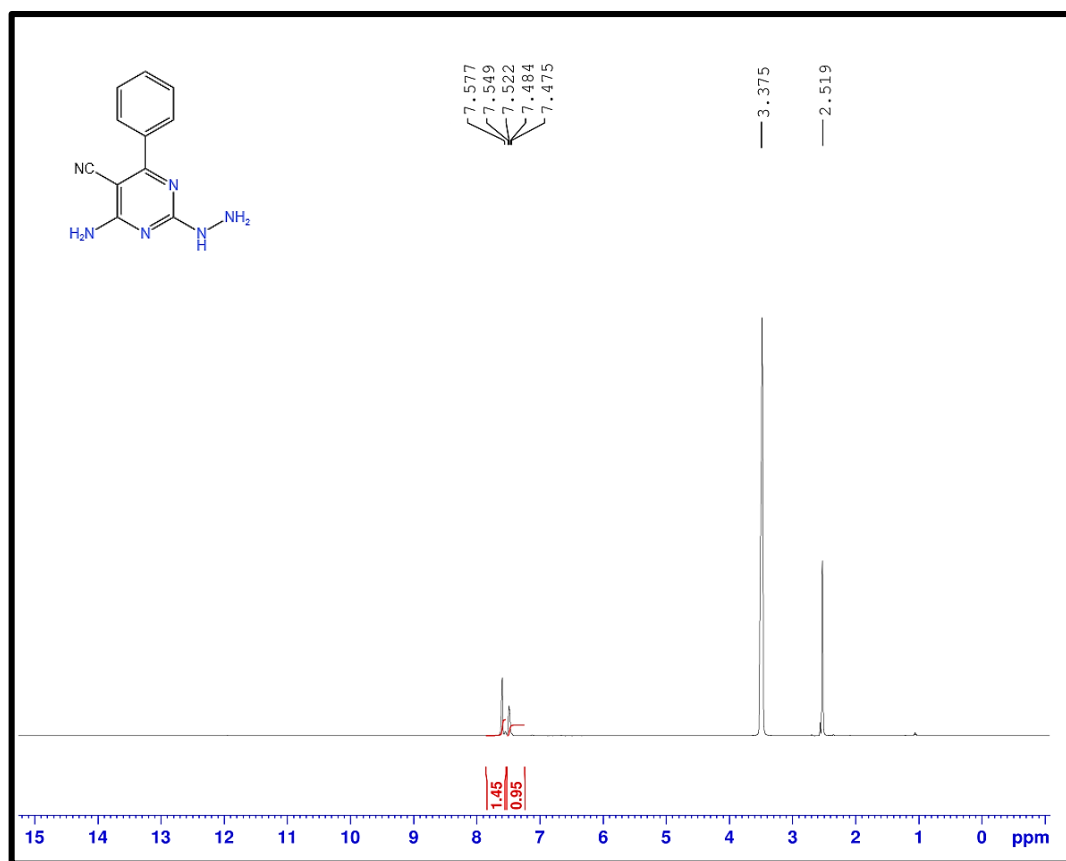


Fig 41: ¹H-NMR spectrum of compound 4a + D₂O

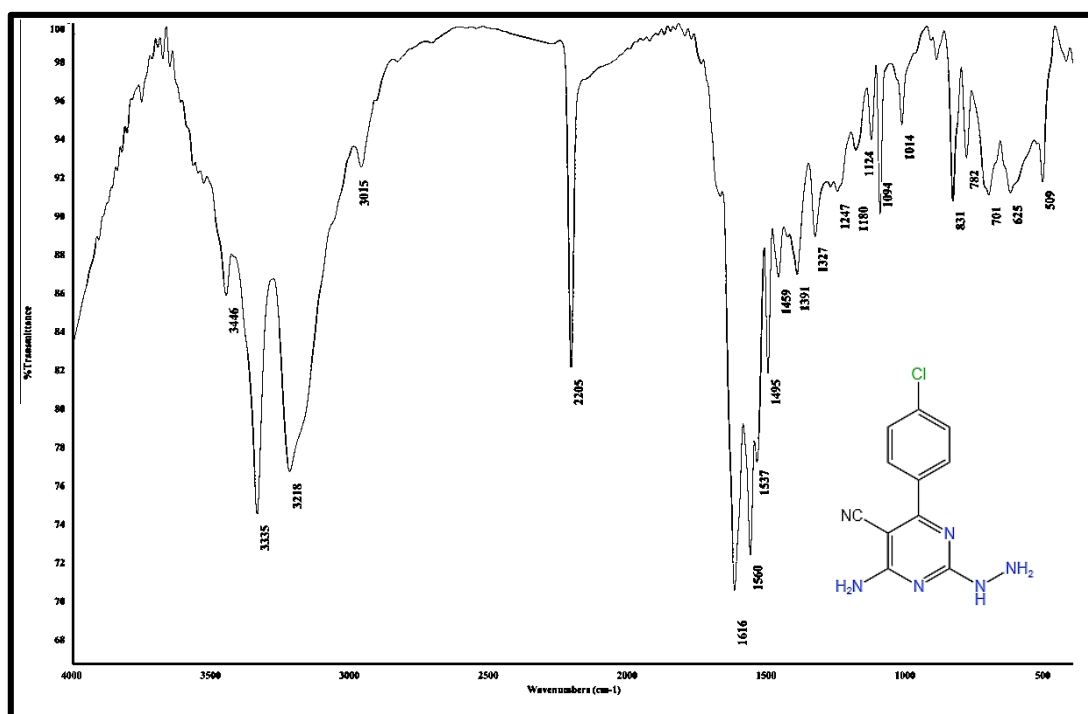


Fig 42: IR spectrum of compound 4b

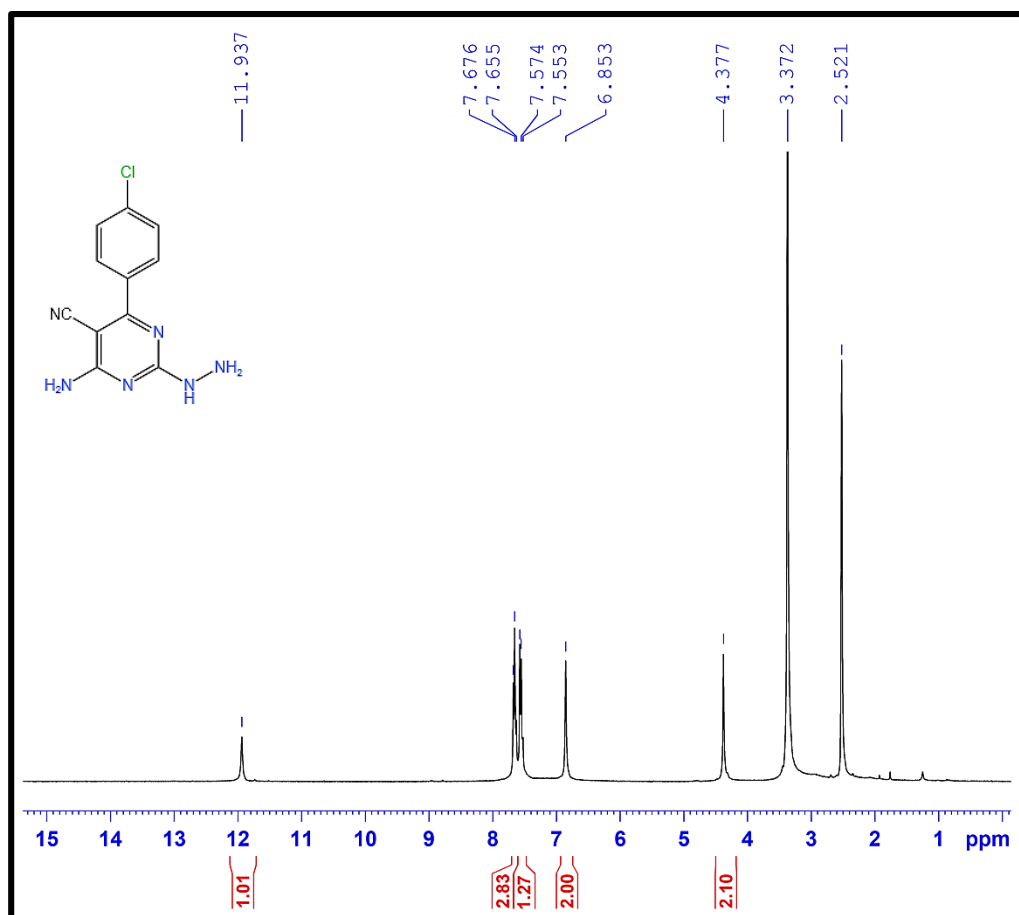


Fig 43: ¹H-NMR spectrum of compound 4b

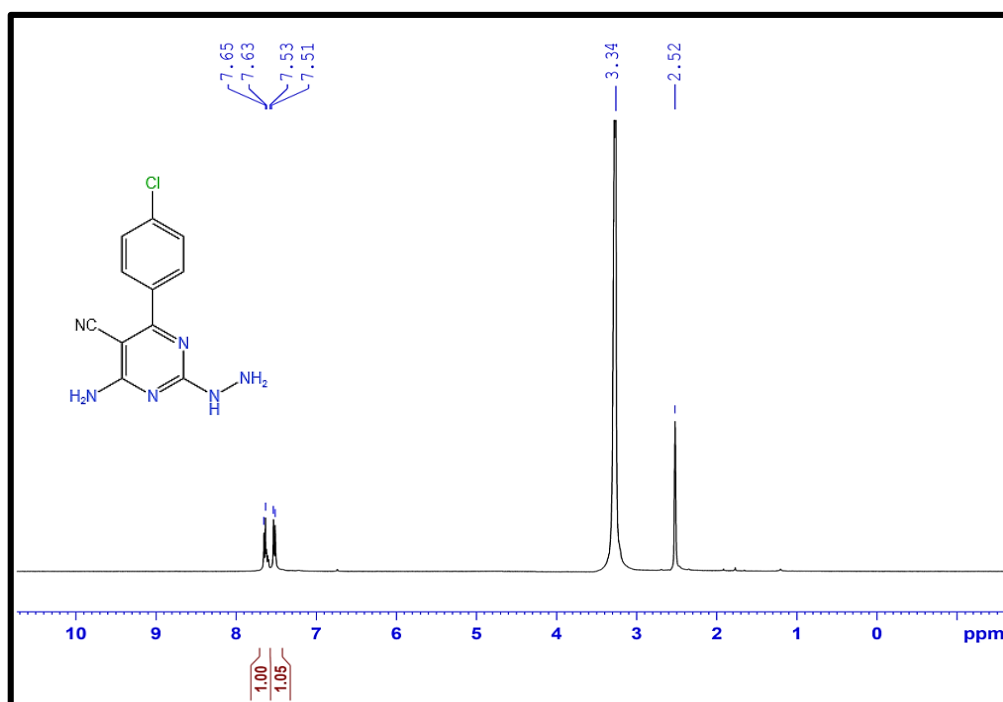


Fig 44: ¹H-NMR spectrum of compound 4b+ D₂O

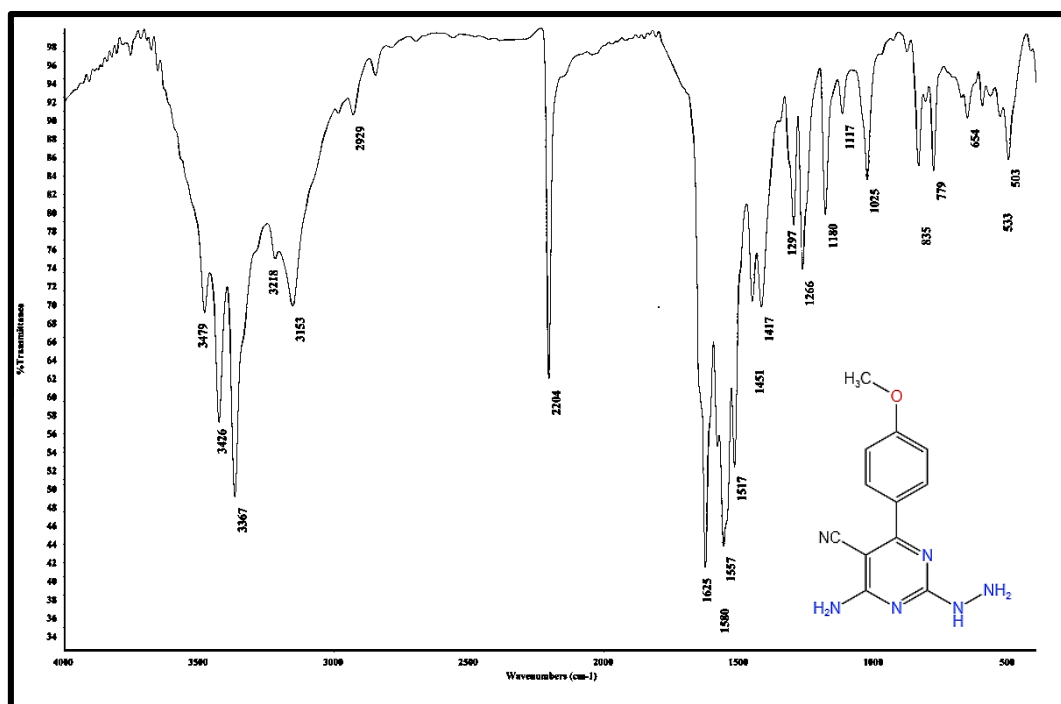


Fig 45: IR spectrum of compound 4c

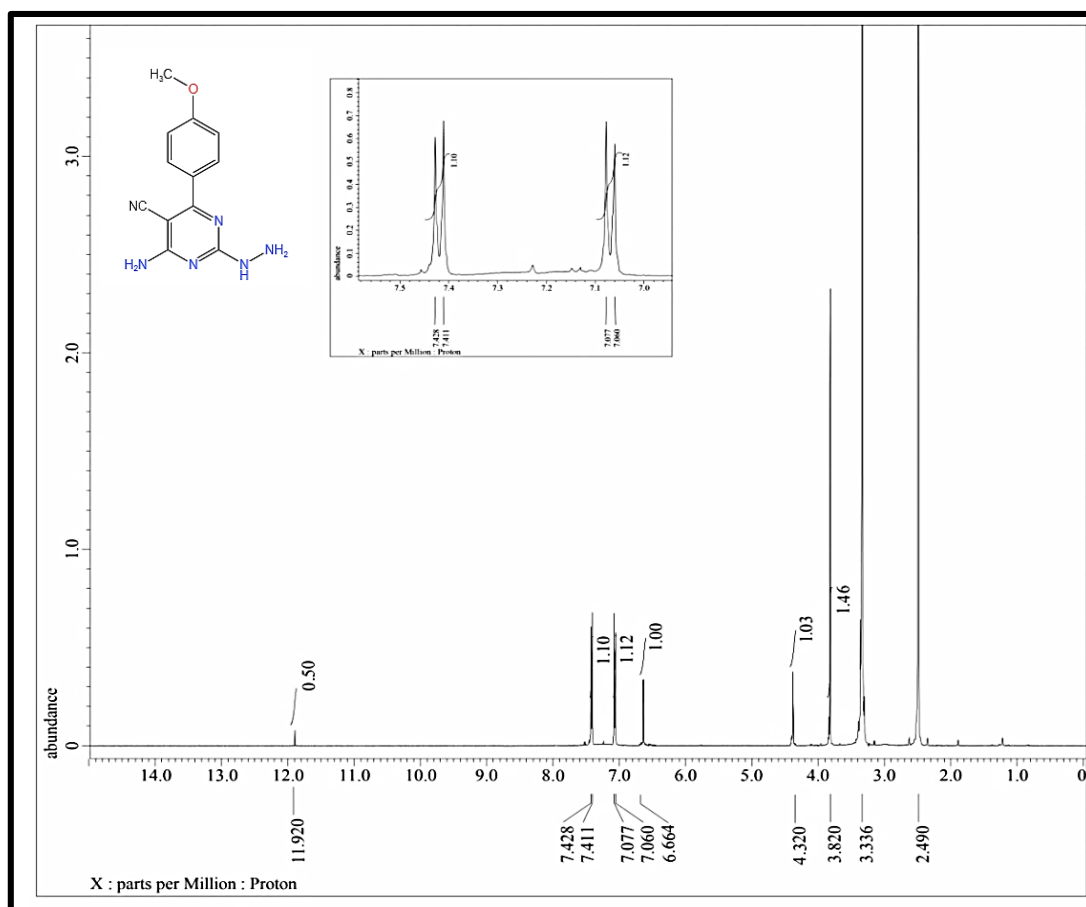


Fig 46: ¹H-NMR spectrum of compound 4c

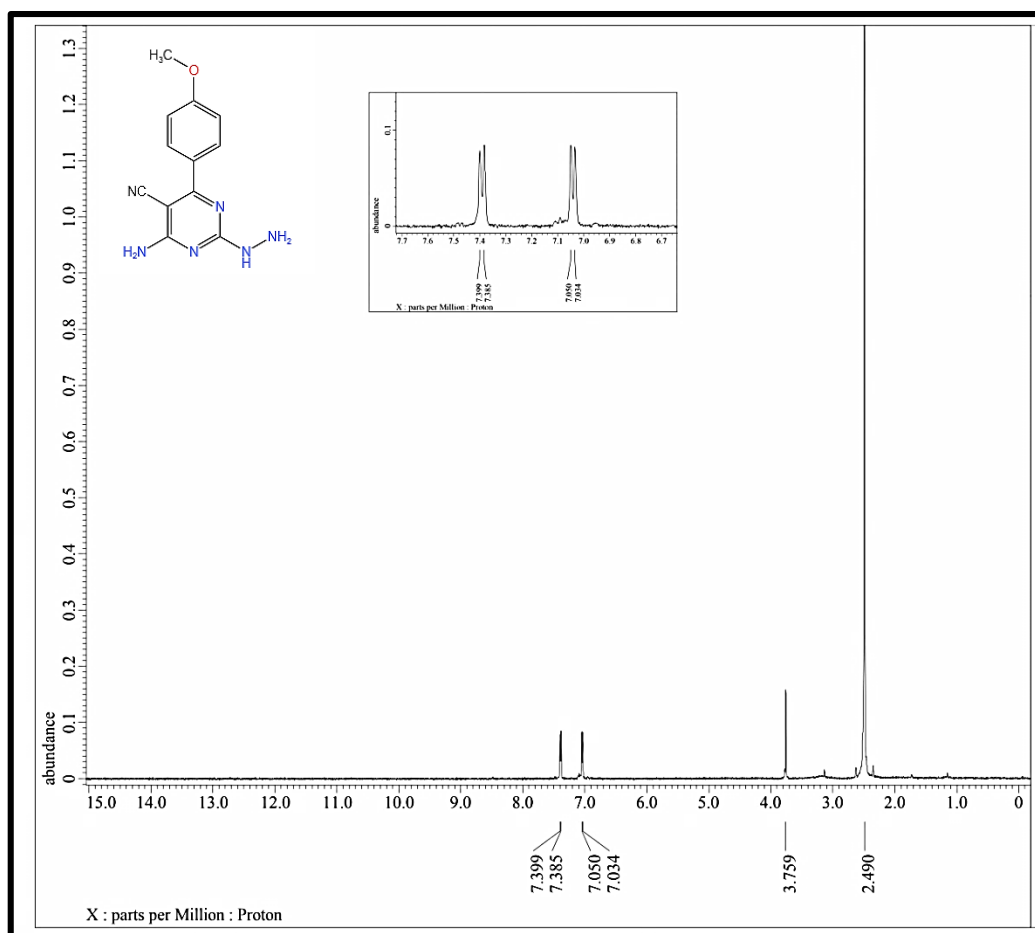


Fig 47: ¹H-NMR spectrum of compound 4c + D₂O

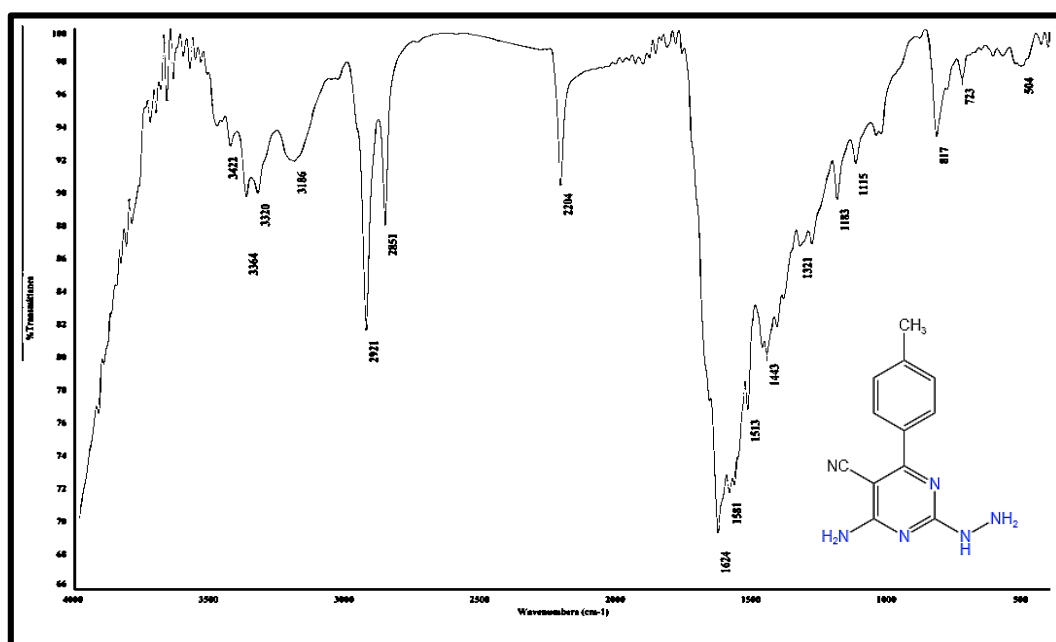


Fig 48: IR spectrum of compound 4d

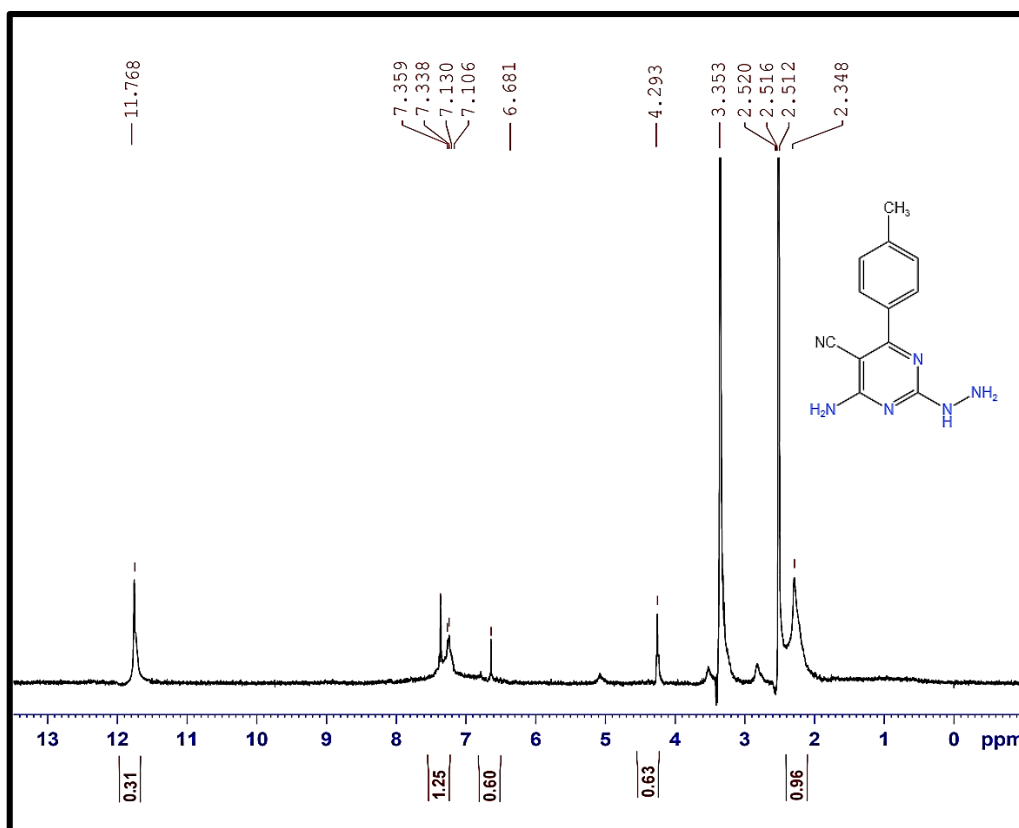


Fig 49: ¹H-NMR spectrum of compound 4d

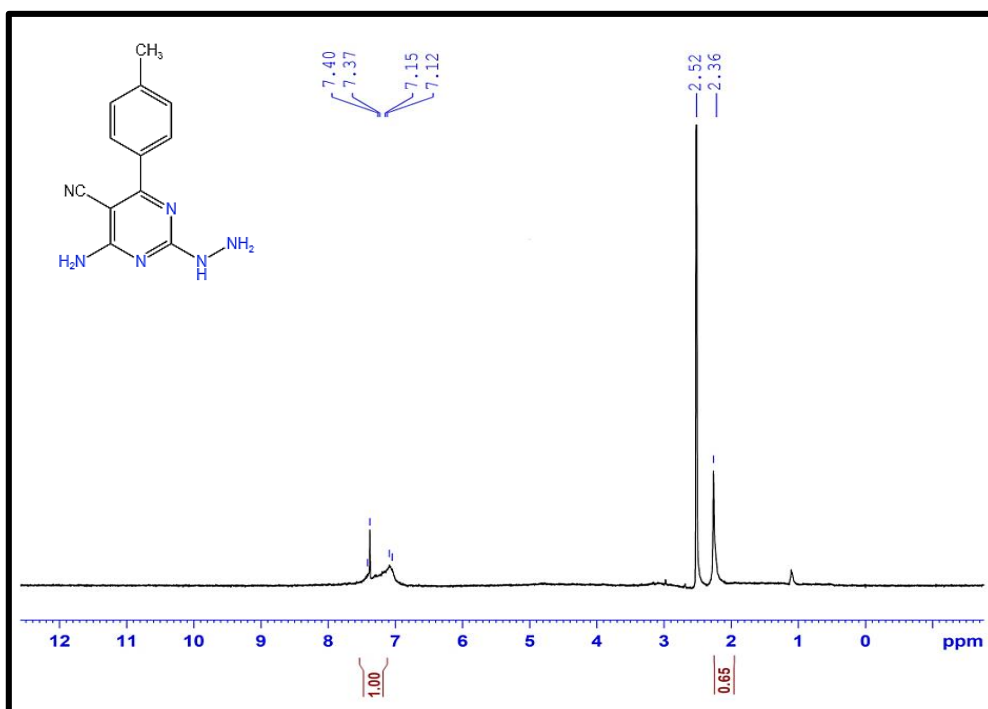


Fig 50: ¹H-NMR spectrum of compound 4d + D₂O

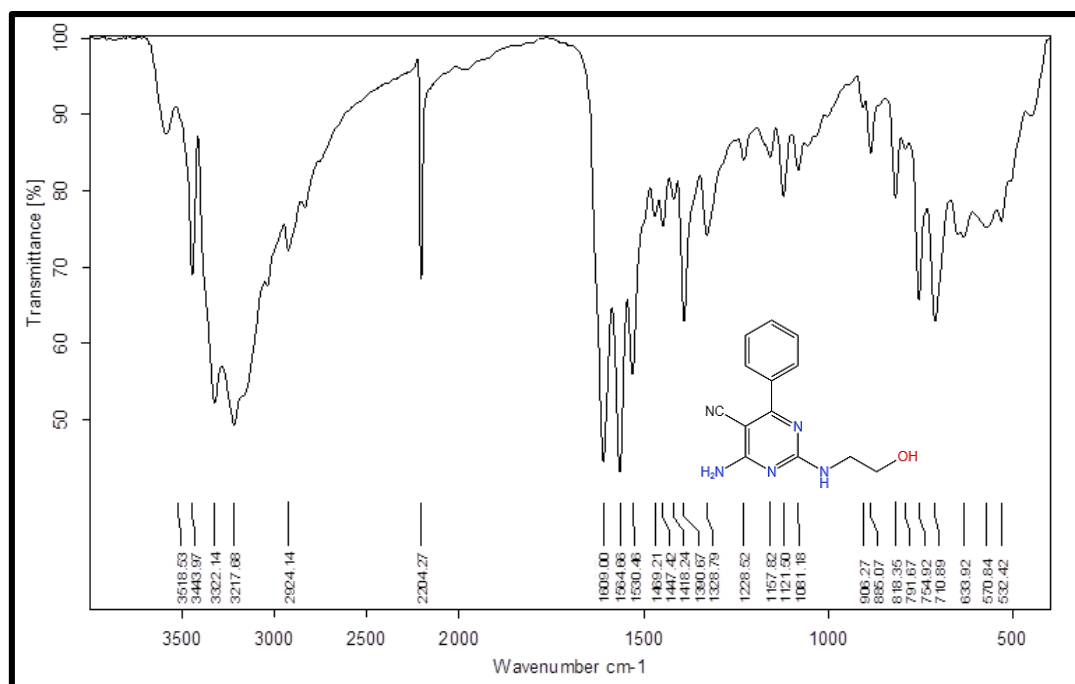


Fig 51: IR spectrum of compound 5a

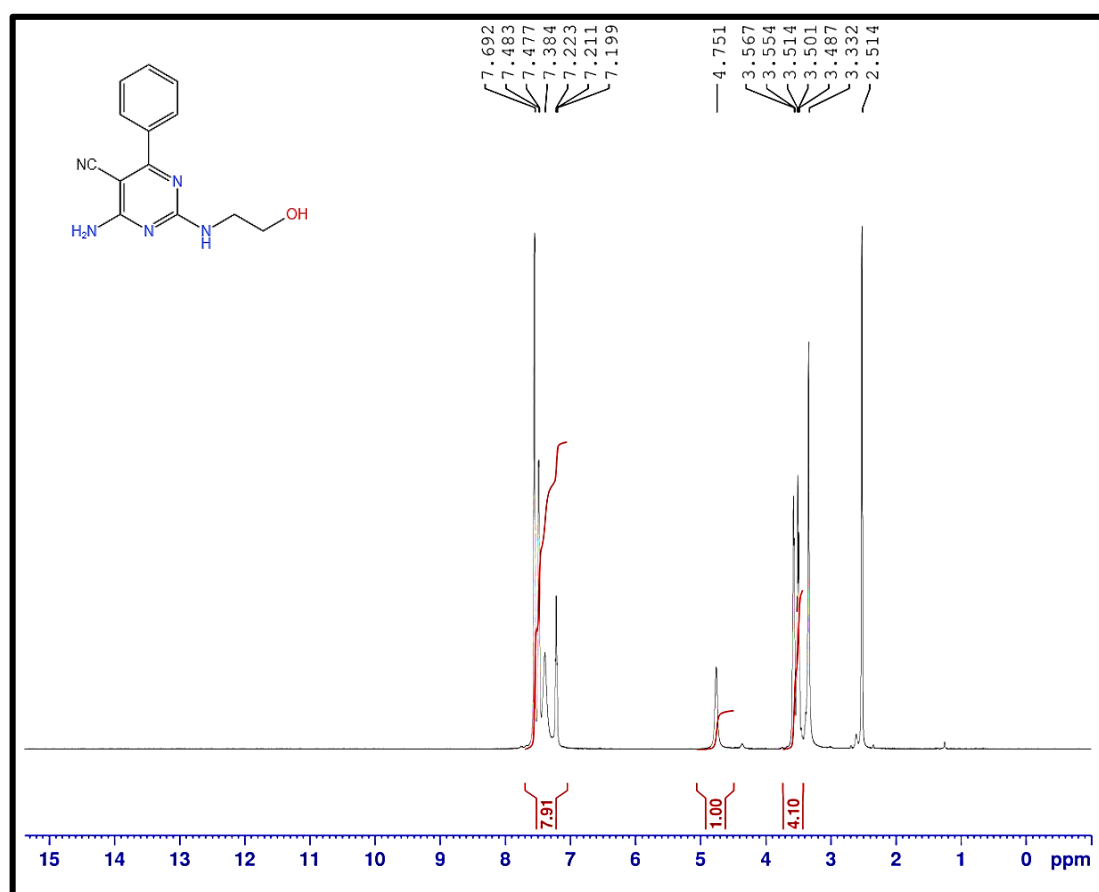


Fig 52: ¹H-NMR spectrum of compound 5a

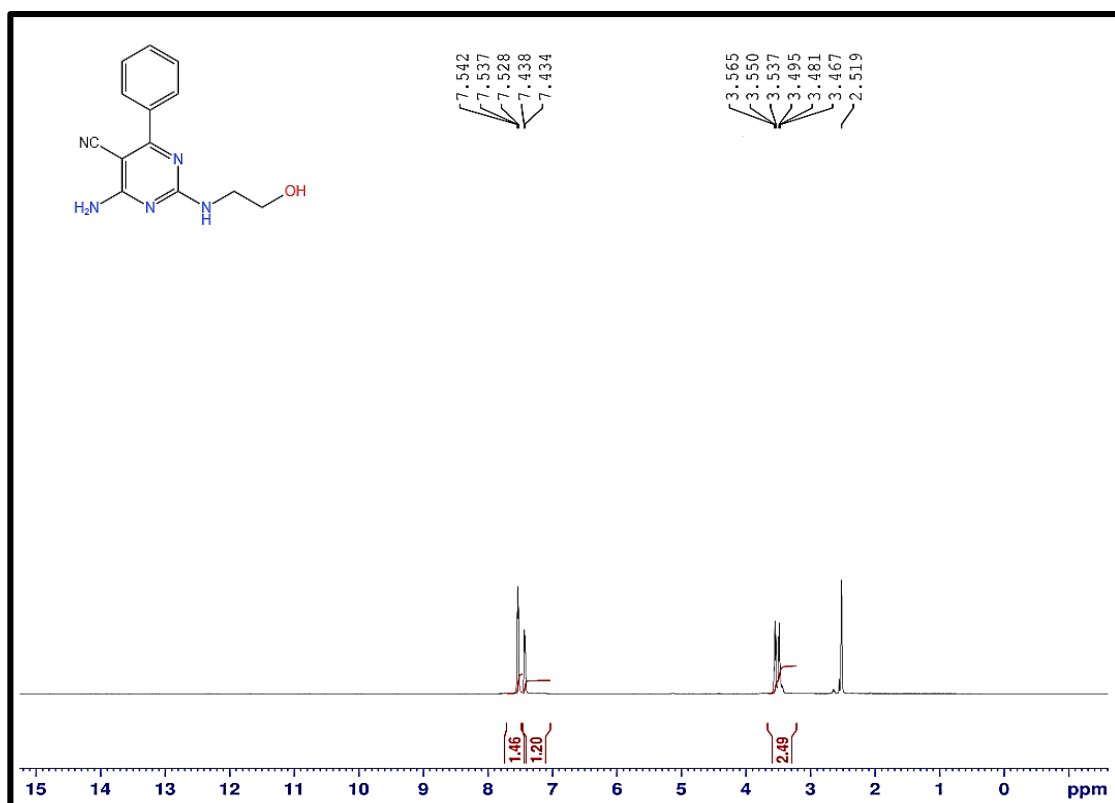


Fig 53: ¹H-NMR spectrum of compound 5a + D₂O

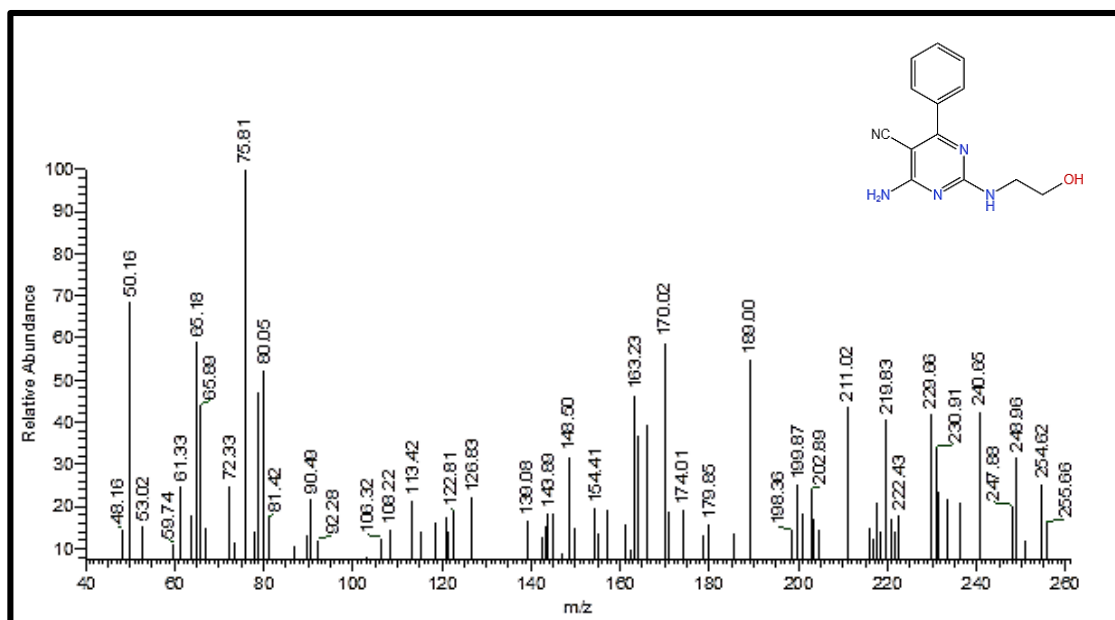


Fig 54: Mass spectrum of compound 5a

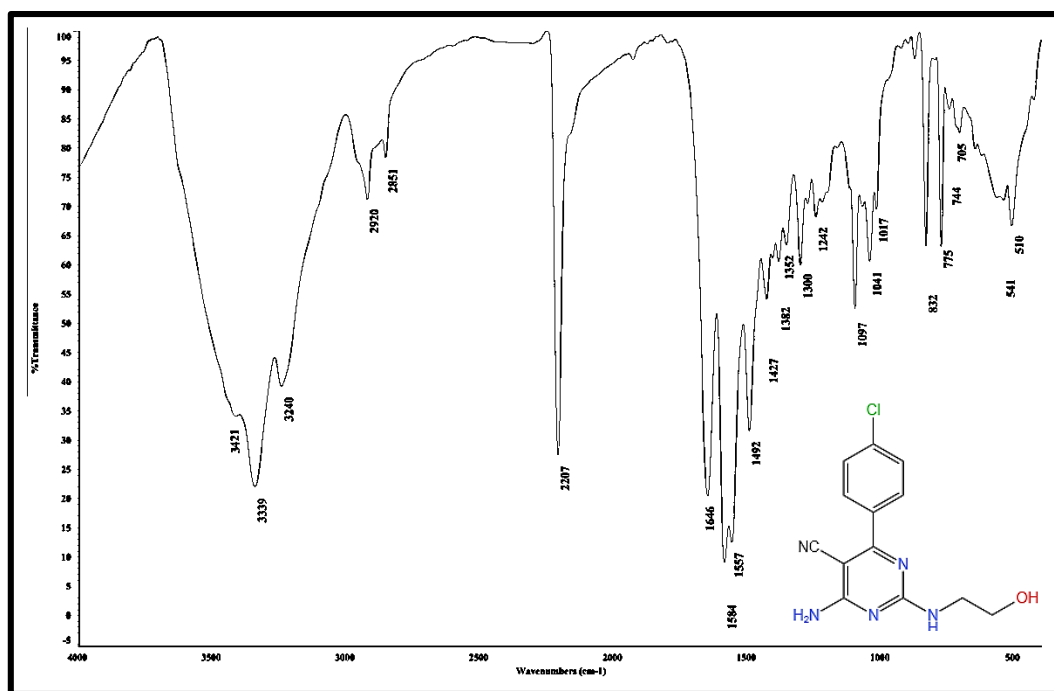


Fig 55: IR spectrum of compound 5b

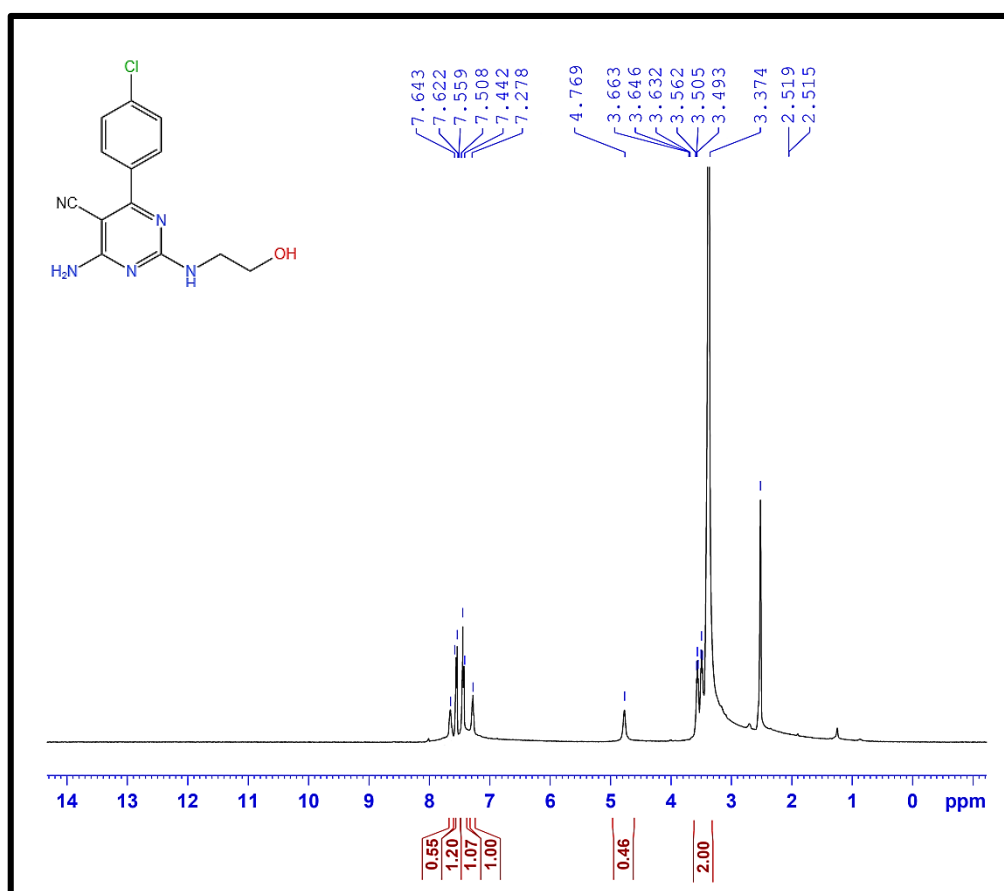


Fig 56: ¹H-NMR spectrum of compound 5b

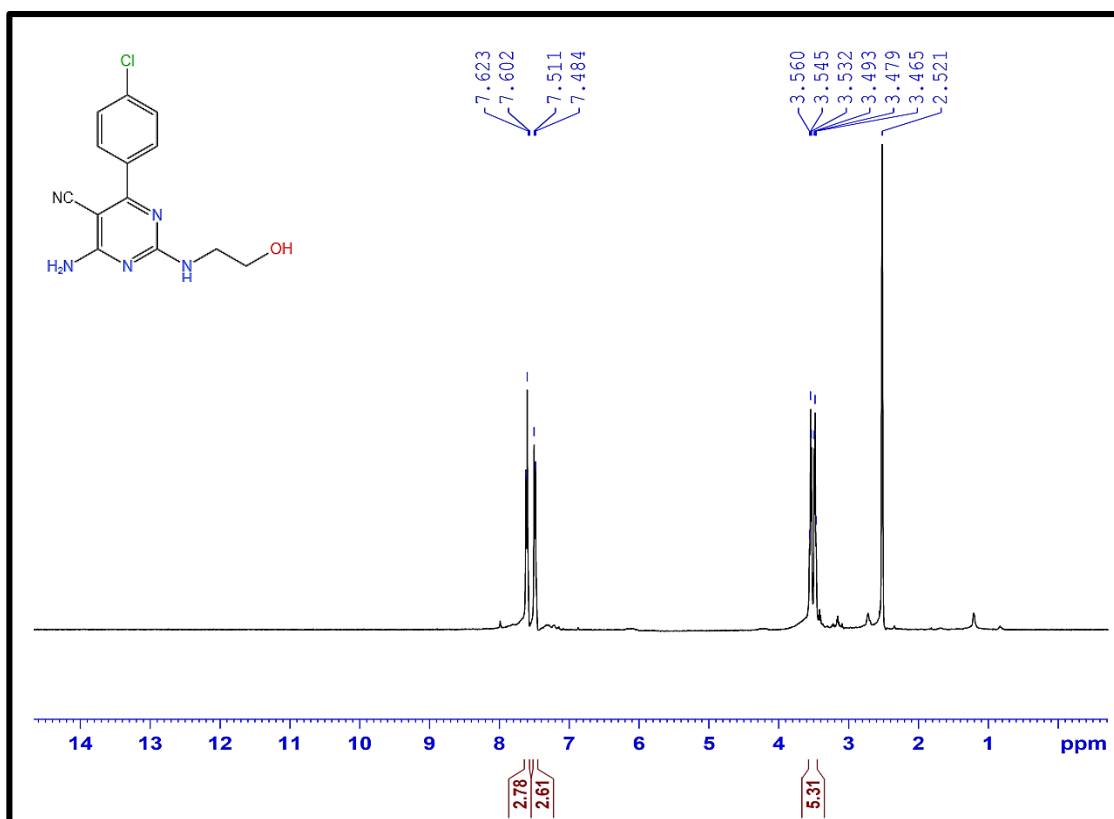


Fig 57: ¹H-NMR spectrum of compound 5b + D₂O

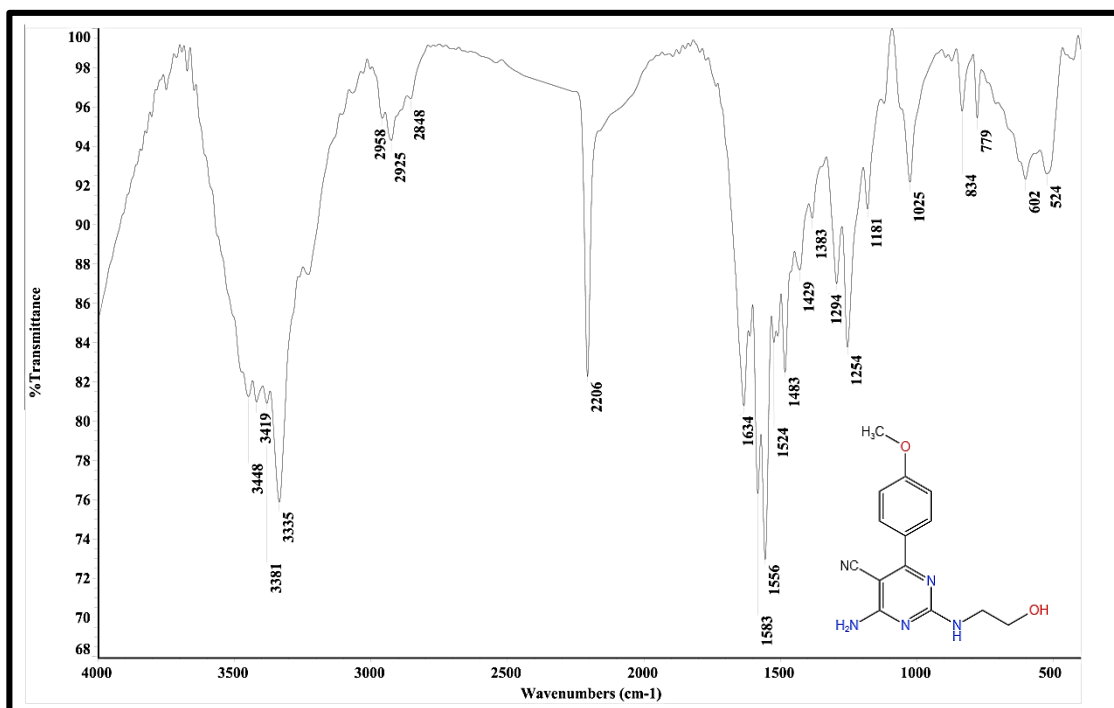


Fig 58: IR spectrum of compound 5c

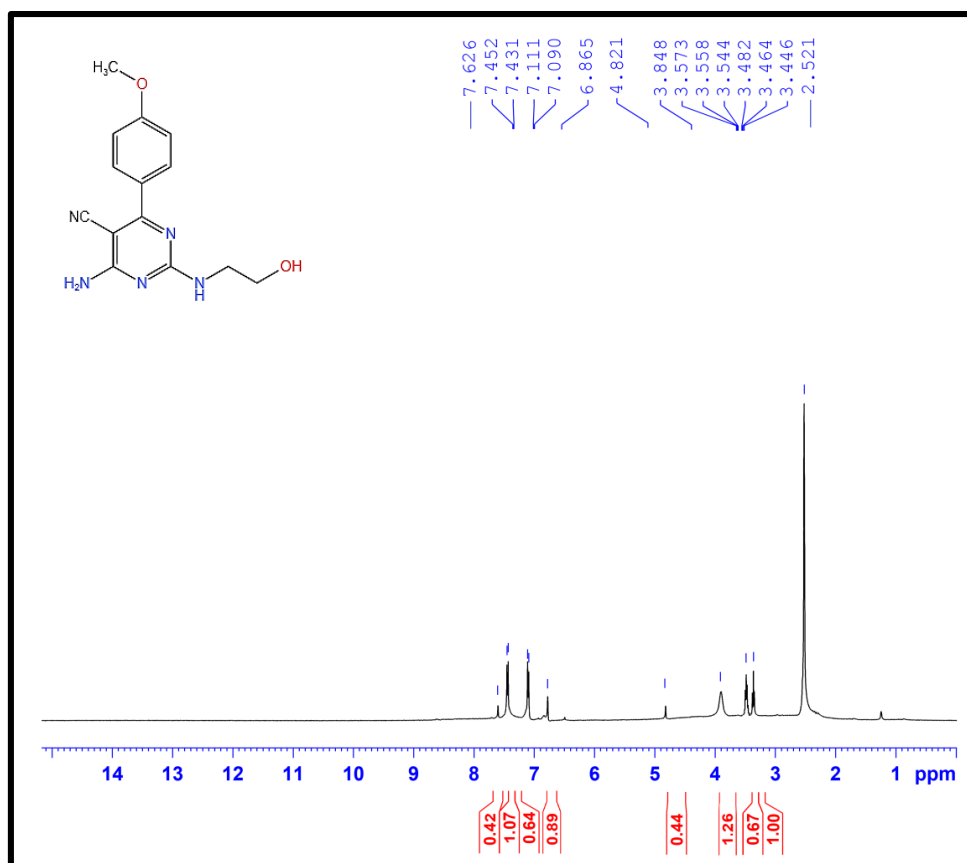


Fig 59: ¹H-NMR spectrum of compound 5c

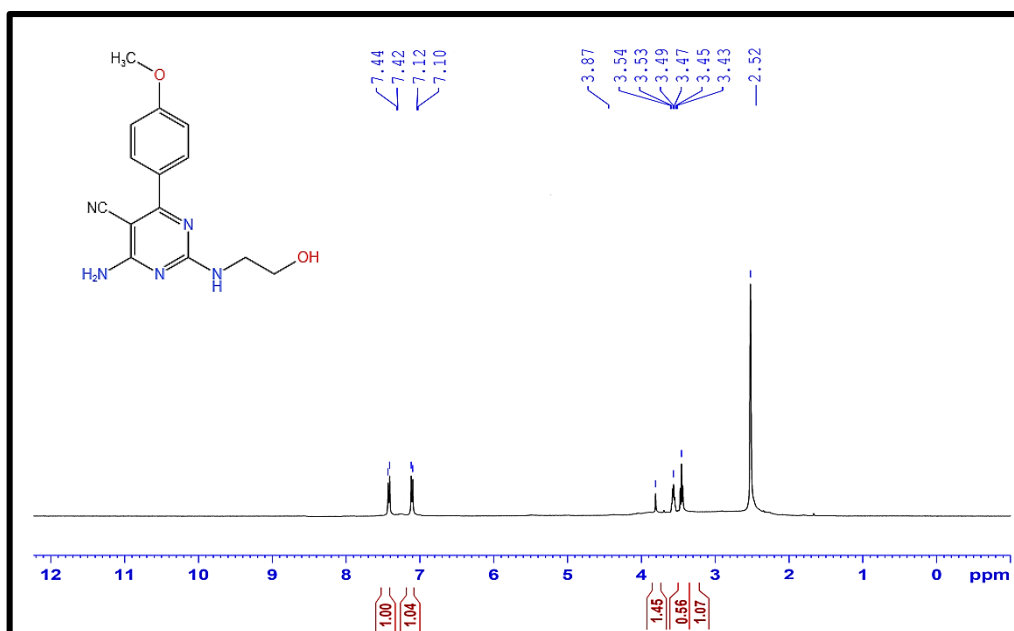


Fig 60: ¹H-NMR spectrum of compound 5c + D₂O

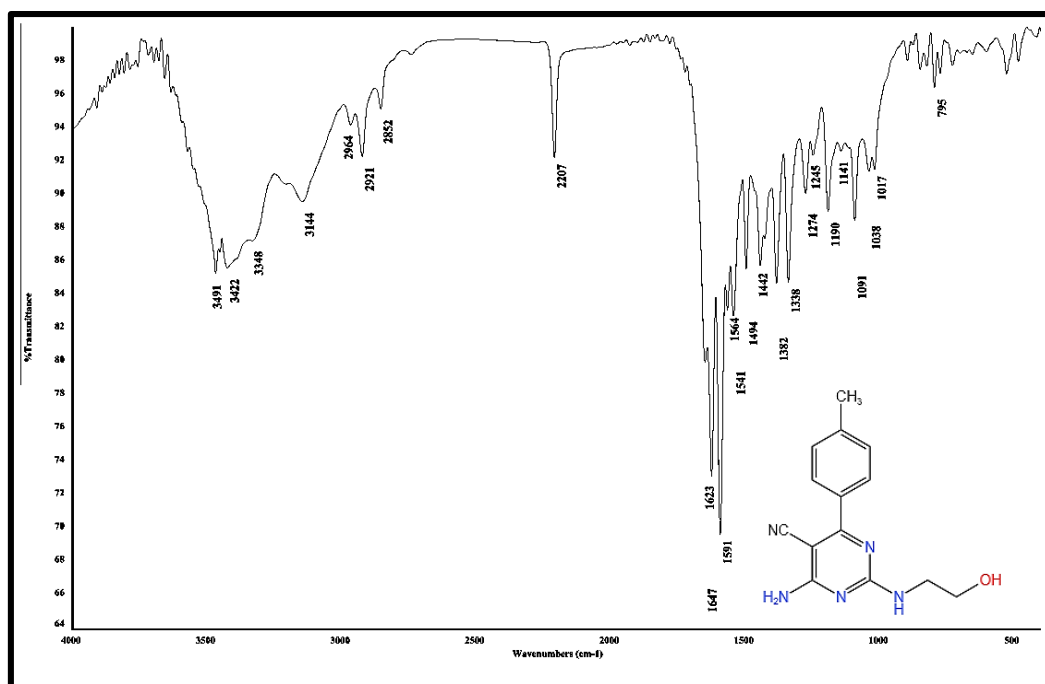


Fig 61: IR spectrum of compound 5d

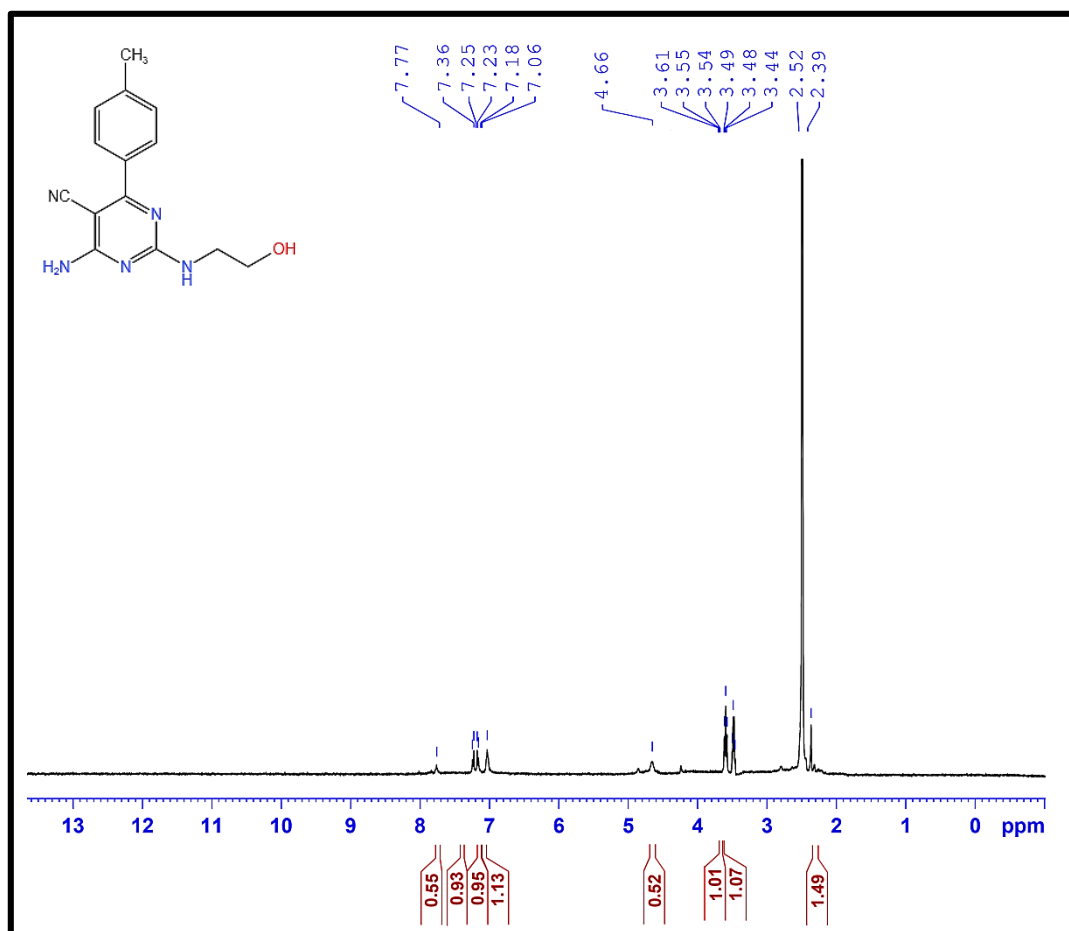


Fig 62: ¹H-NMR spectrum of compound 5d

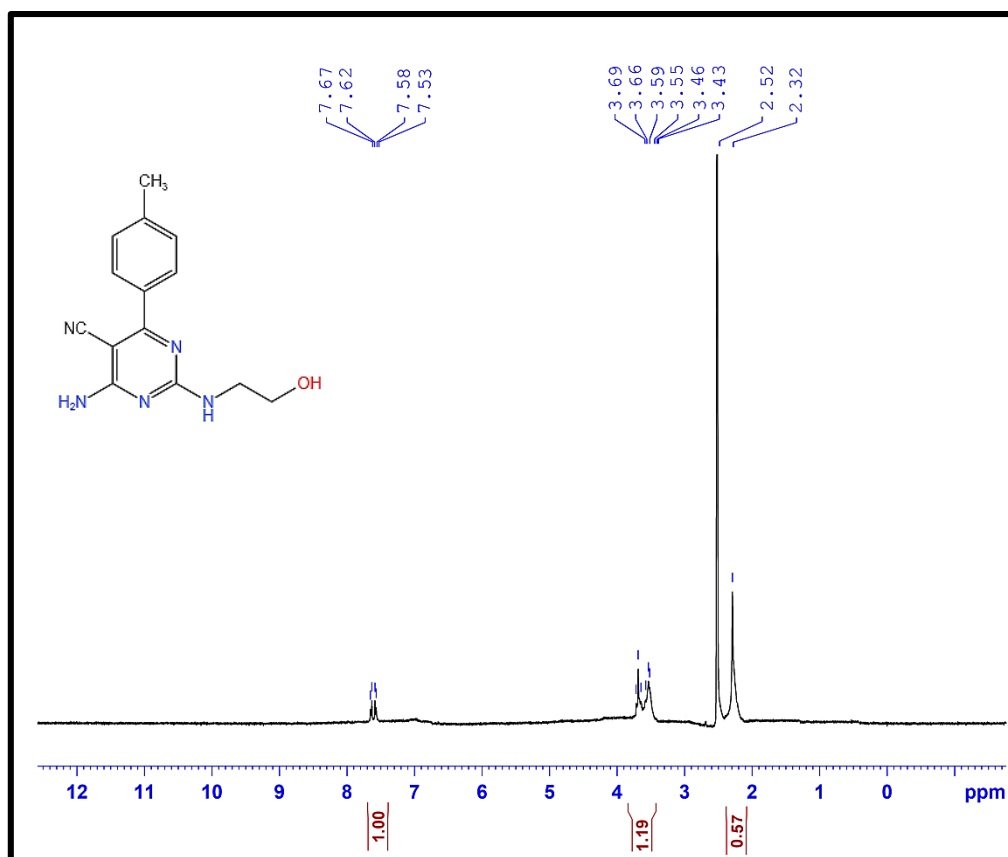


Fig 63: ¹H-NMR spectrum of compound 5d + D₂O

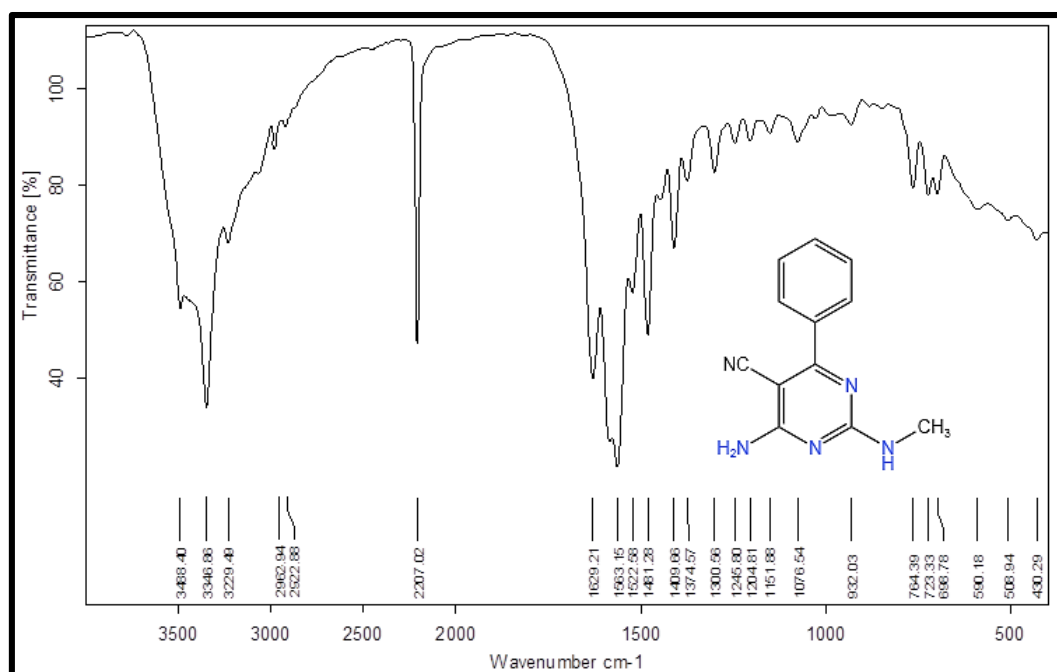


Fig 64: IR spectrum of compound 6a

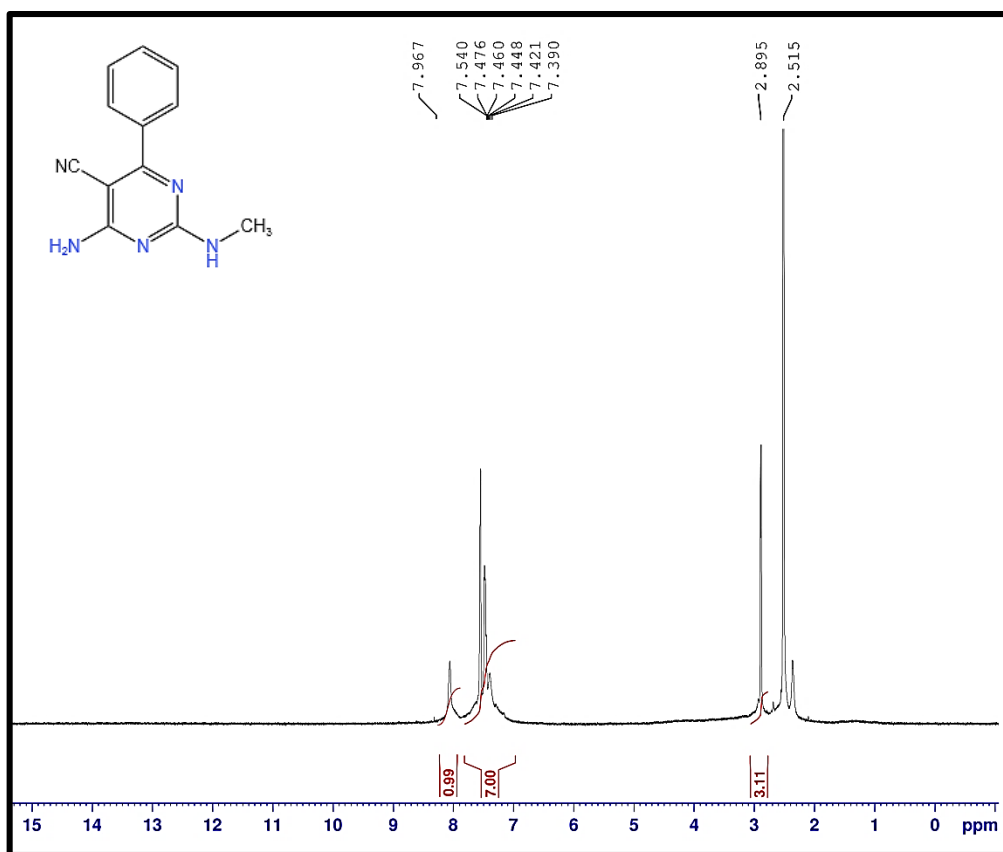


Fig 65: ¹H-NMR spectrum of compound 6a

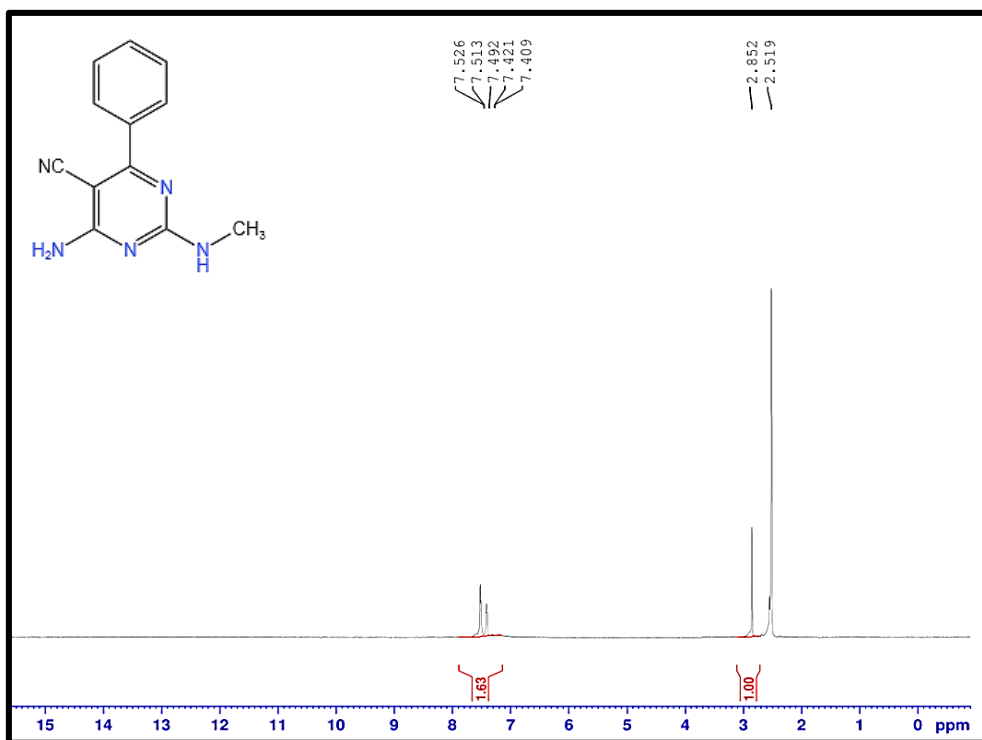


Fig 66: ¹H-NMR spectrum of compound 6a + D₂O

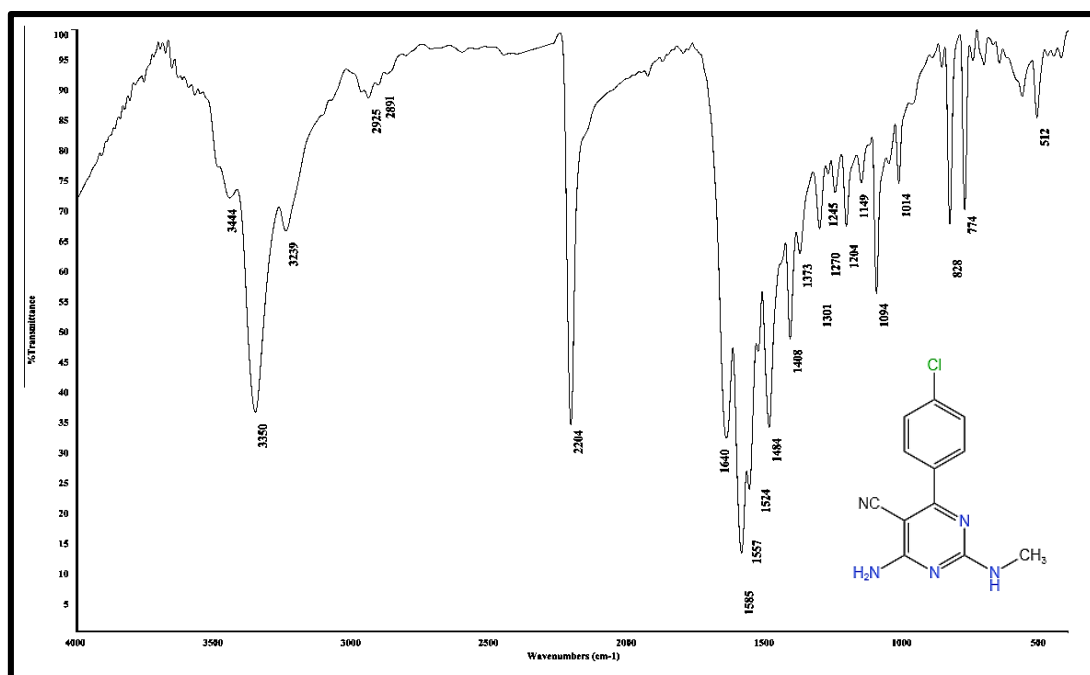


Fig 67: IR spectrum of compound 6b

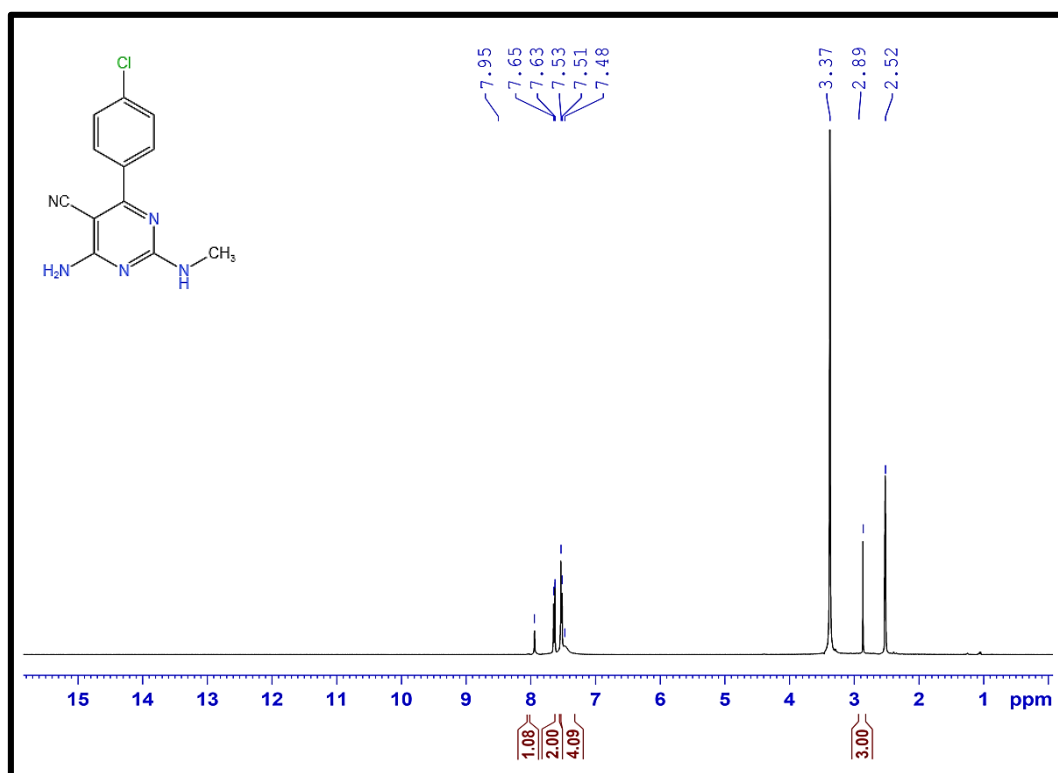


Fig 68: ¹H-NMR spectrum of compound 6b

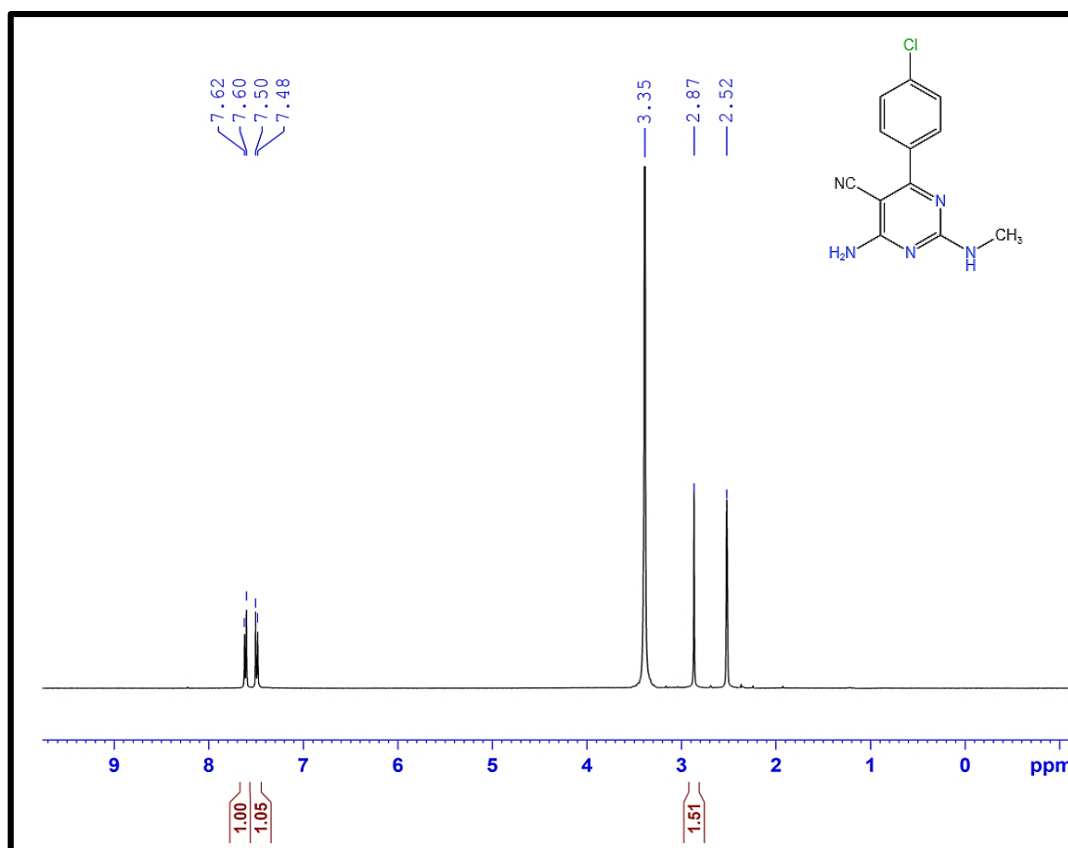


Fig 69: ¹H-NMR spectrum of compound 6b + D₂O

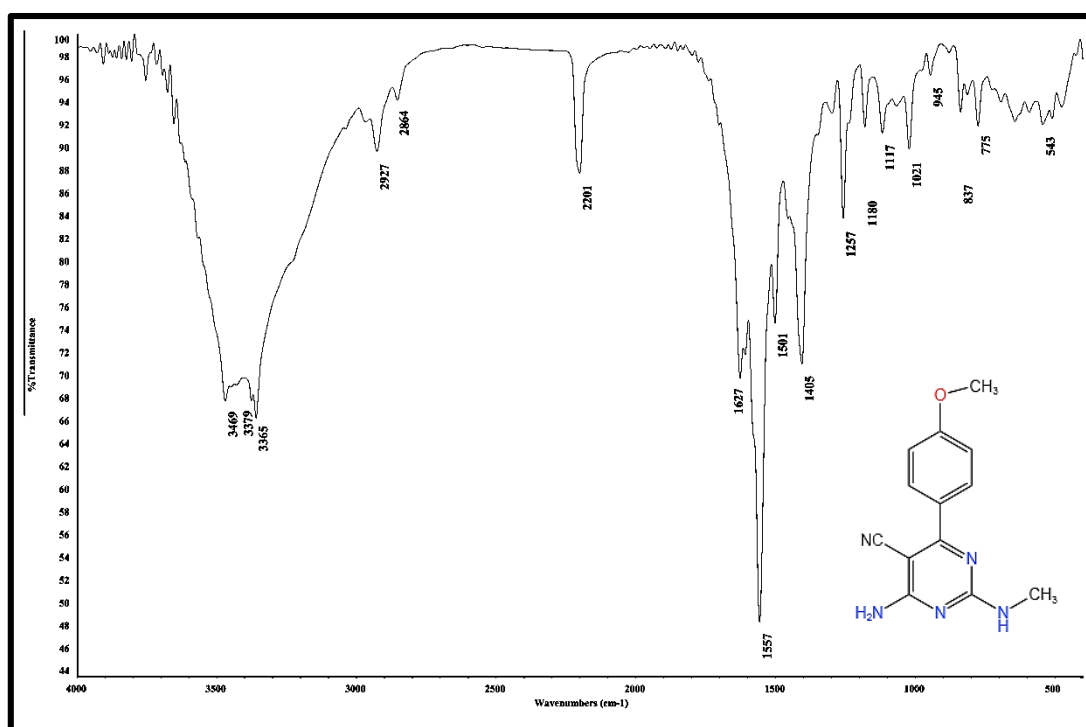


Fig 70: IR spectrum of compound 6c

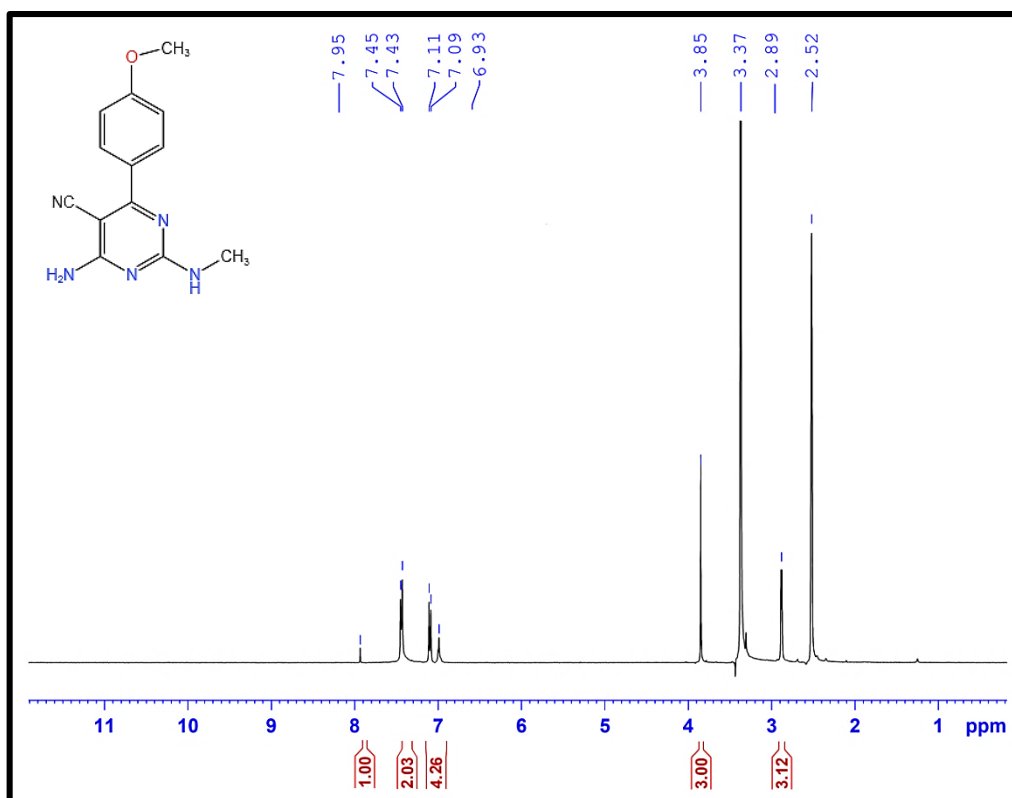


Fig 71: ¹H-NMR spectrum of compound 6c

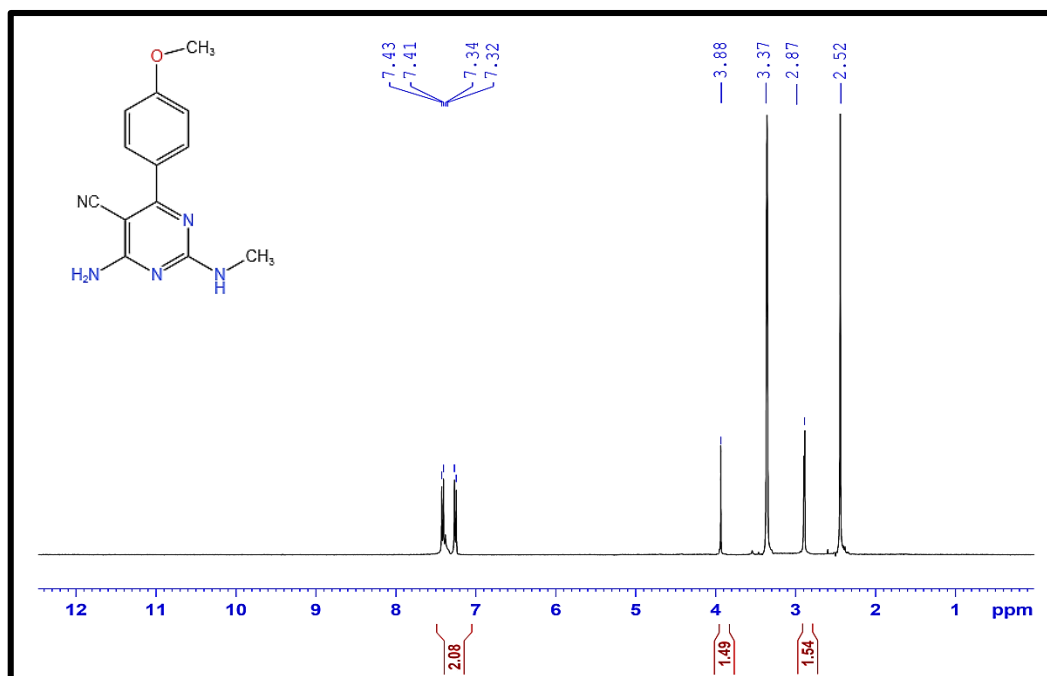


Fig 72: ¹H-NMR spectrum of compound 6c + D₂O

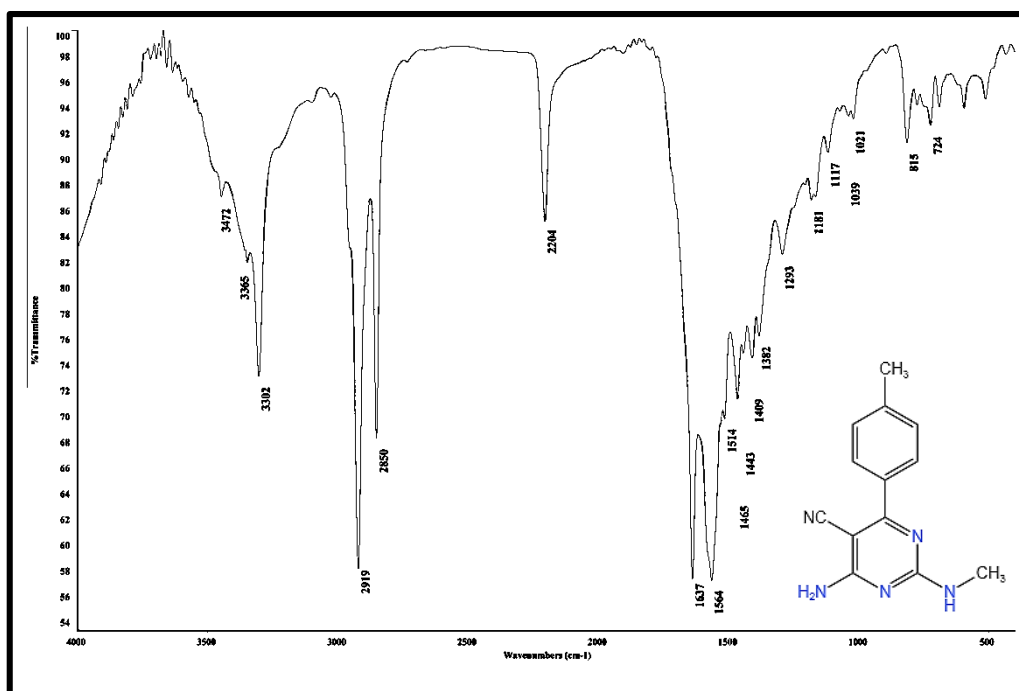


Fig 73: IR spectrum of compound 6d

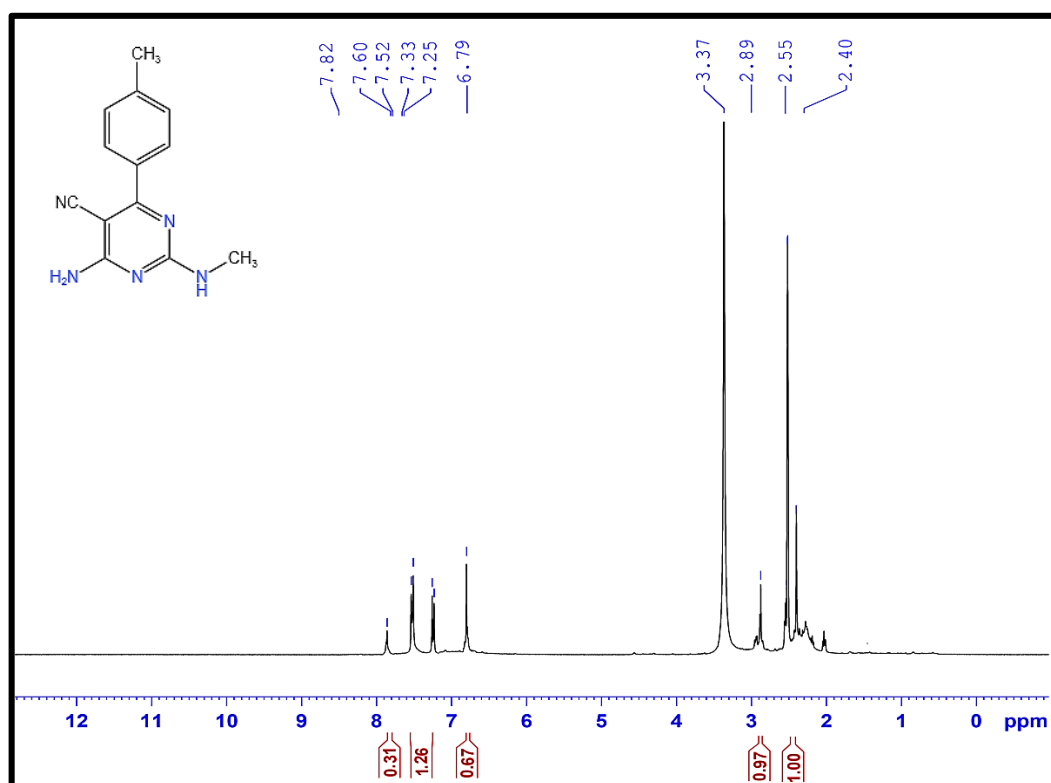


Fig 74: ¹H-NMR spectrum of compound 6d

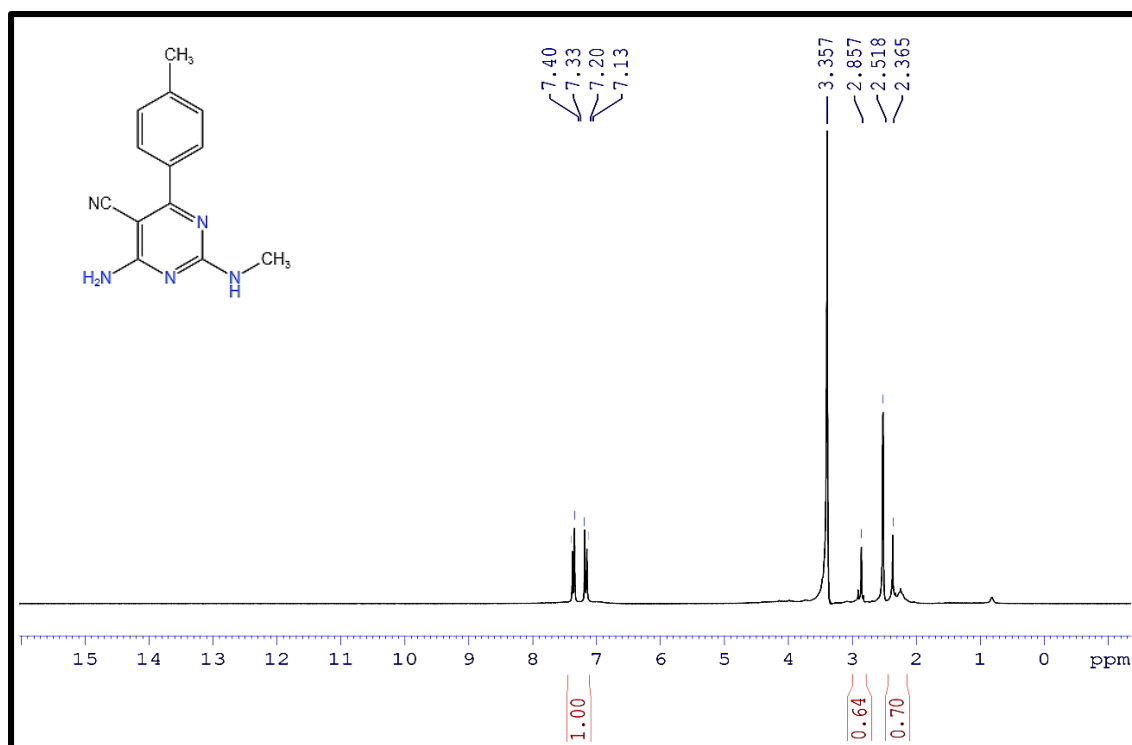


Fig 75: ¹H-NMR spectrum of compound 6d + D₂O

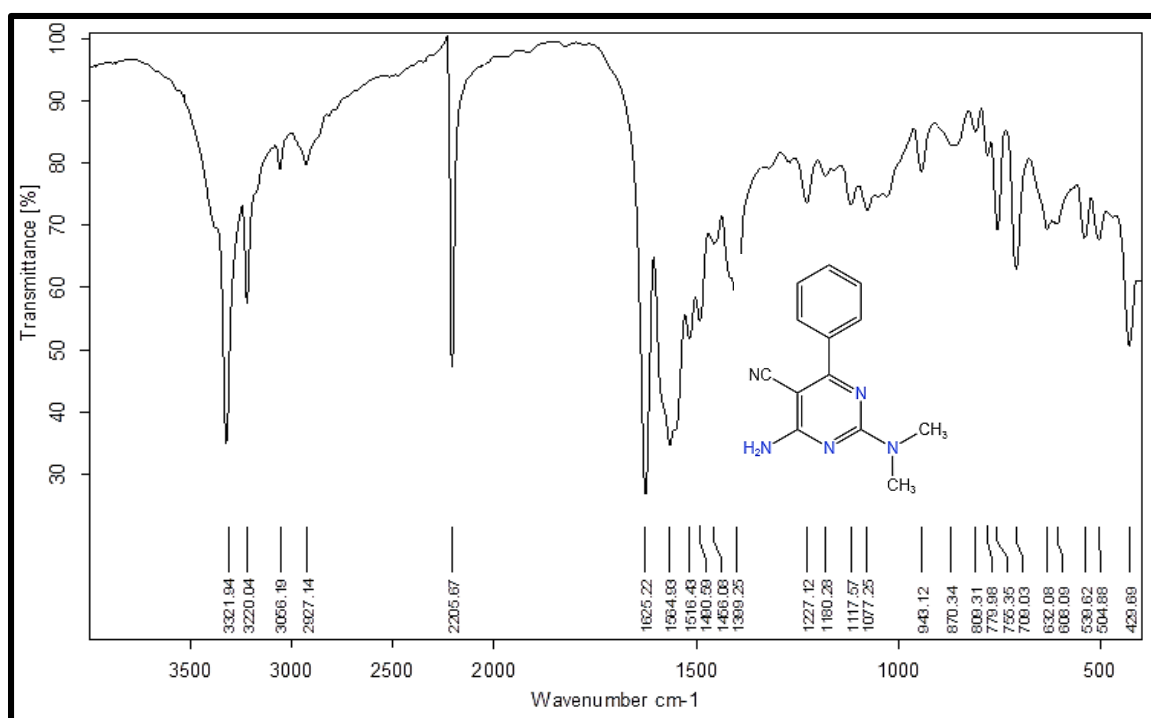


Fig 76: IR spectrum of compound 7a

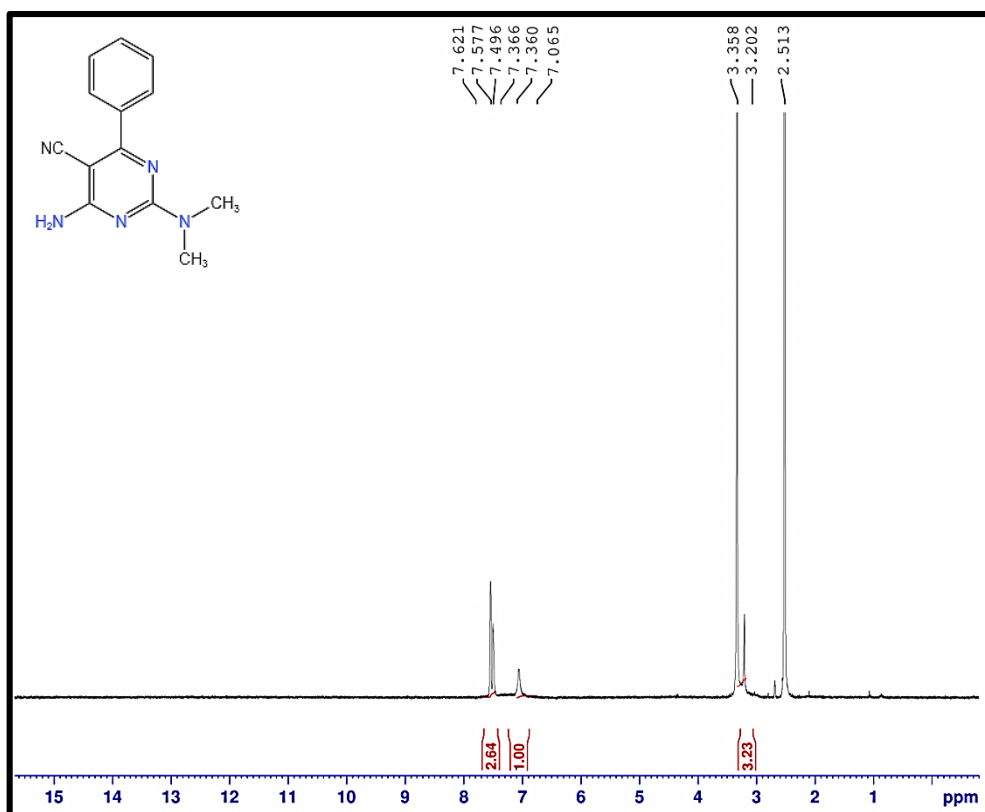


Fig 77: ¹H-NMR spectrum of compound 7a

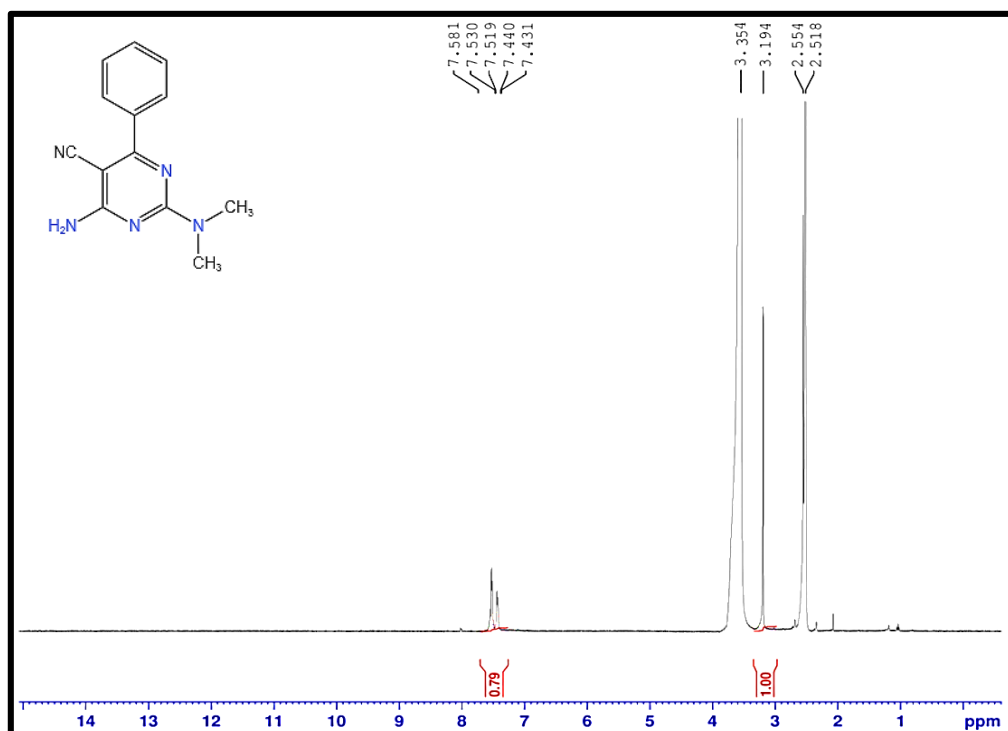


Fig 78: ¹H-NMR spectrum of compound 7a + D₂O

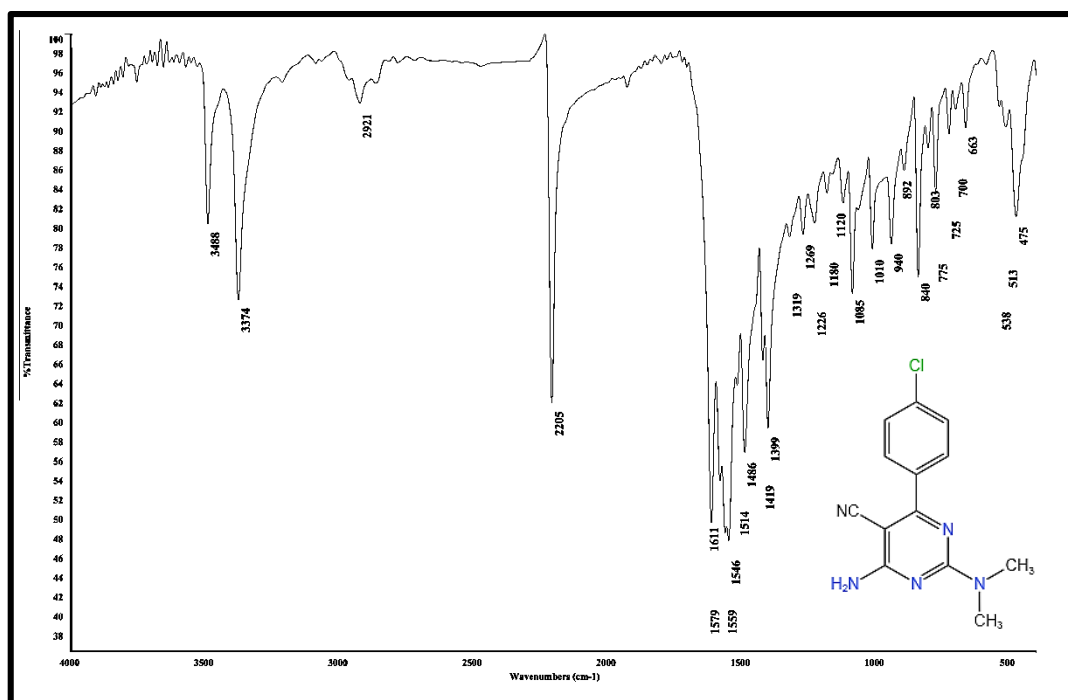


Fig 79: IR spectrum of compound 7b

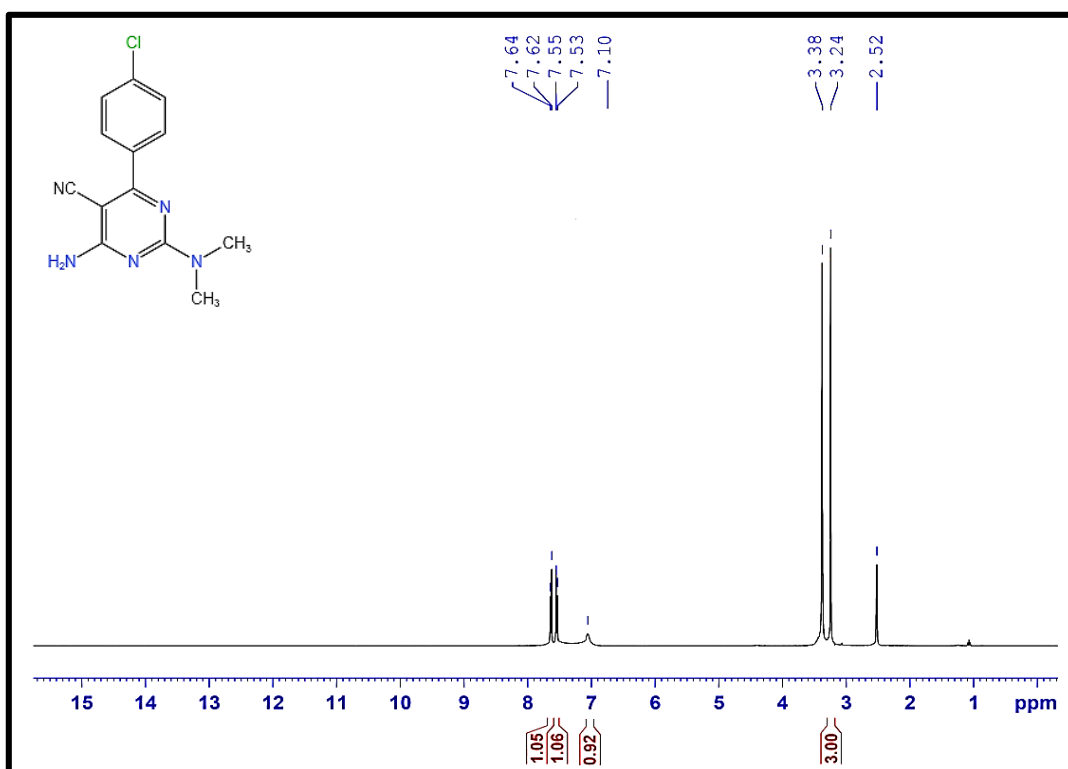


Fig 80: ¹H-NMR spectrum of compound 7b

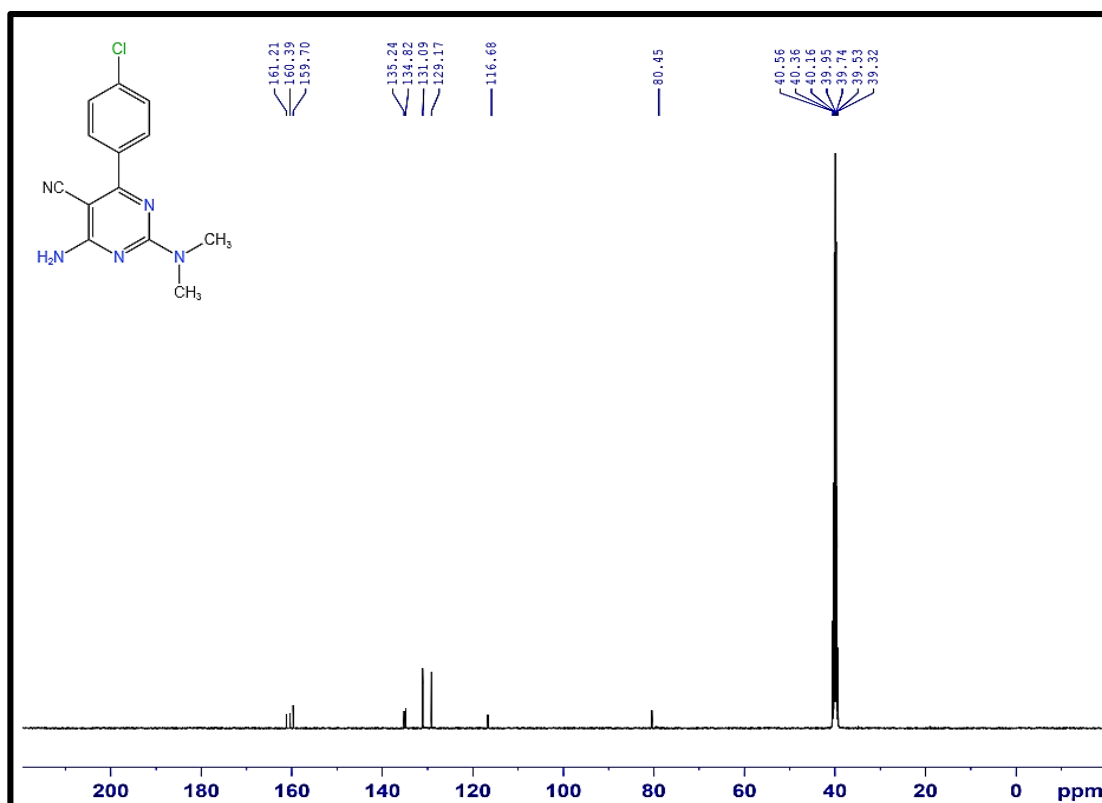


Fig 81: ¹³C-NMR spectrum of compound 7b

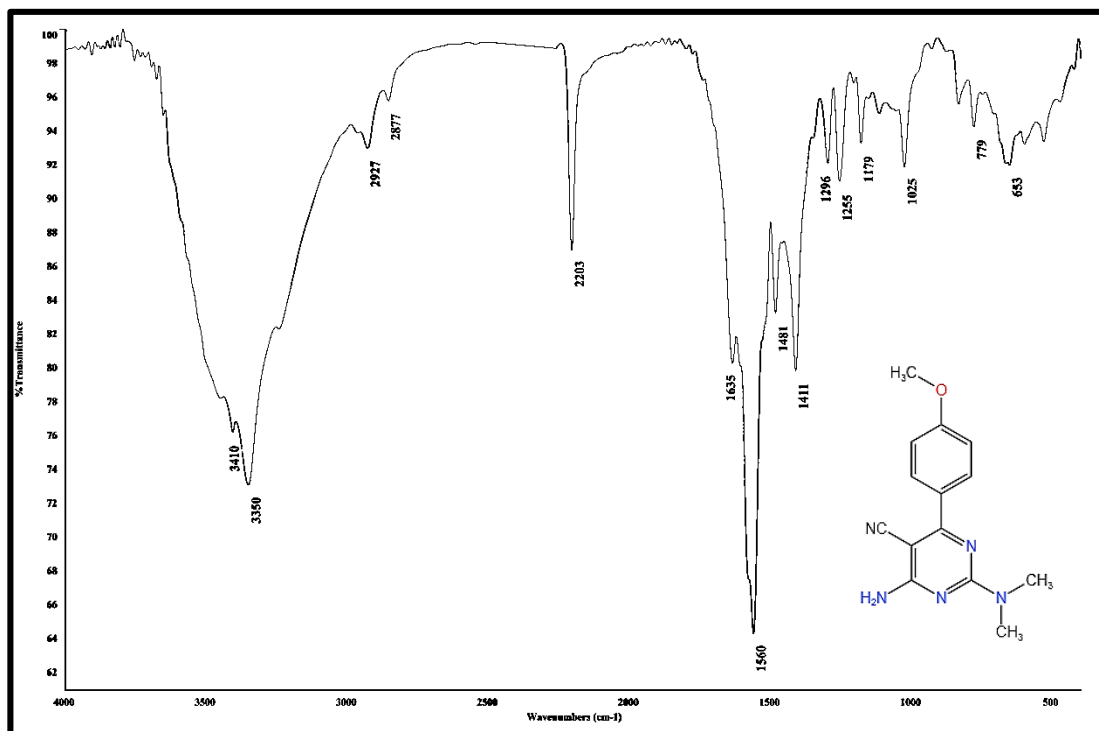


Fig 82: IR spectrum of compound 7c

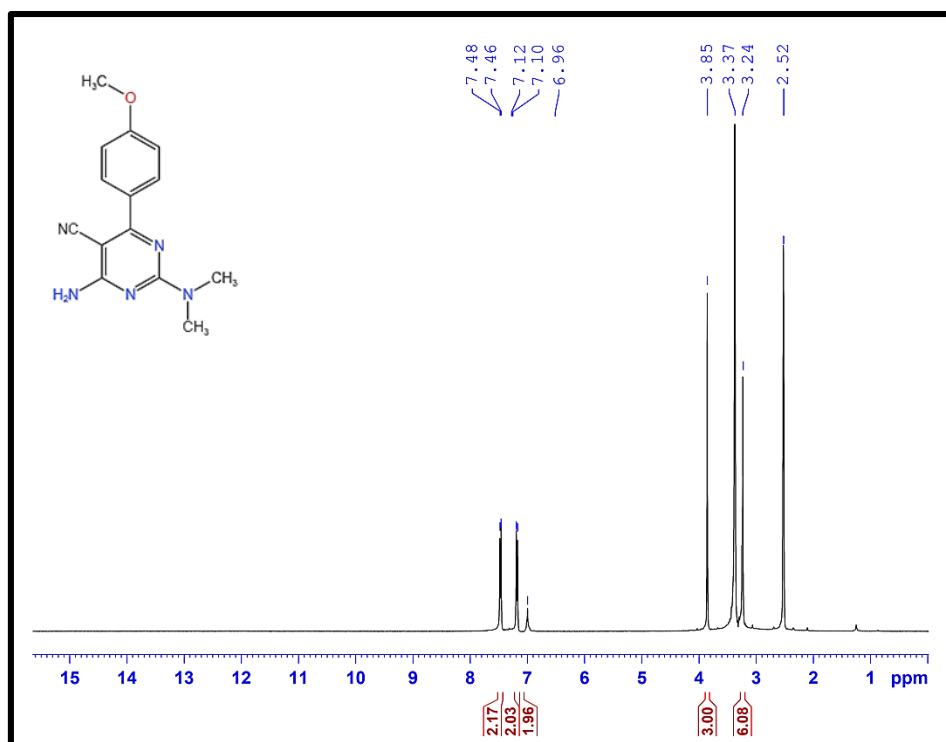


Fig 83: ¹H-NMR spectrum of compound 7c

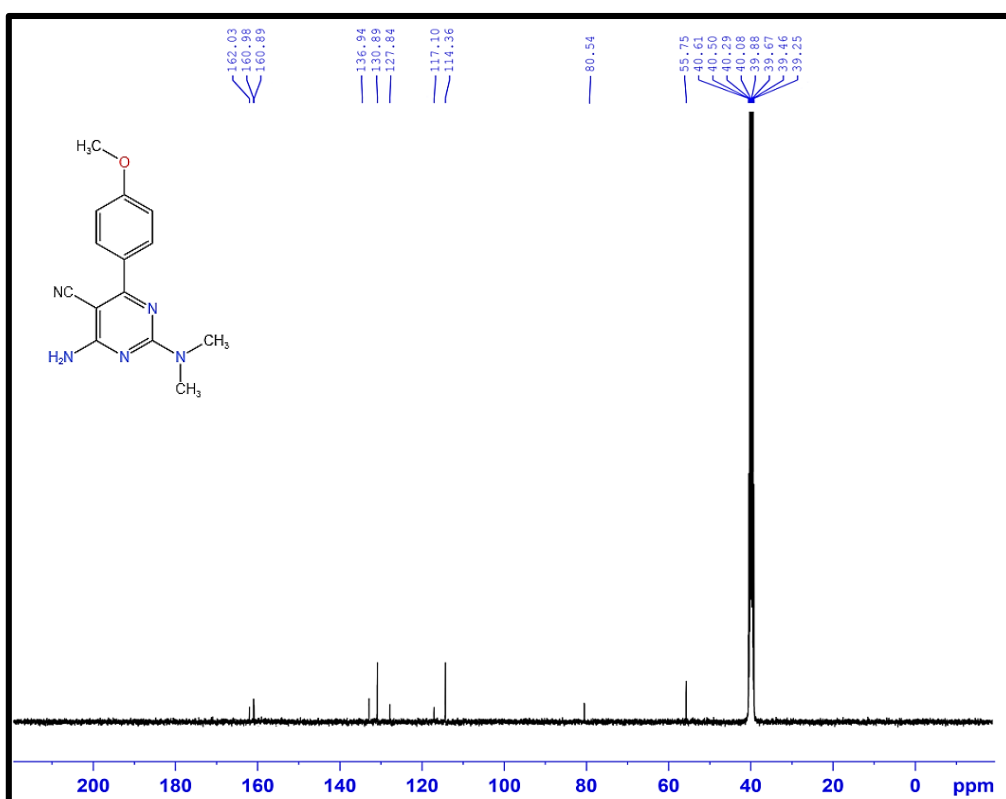


Fig 84: ¹³C-NMR spectrum of compound 7c

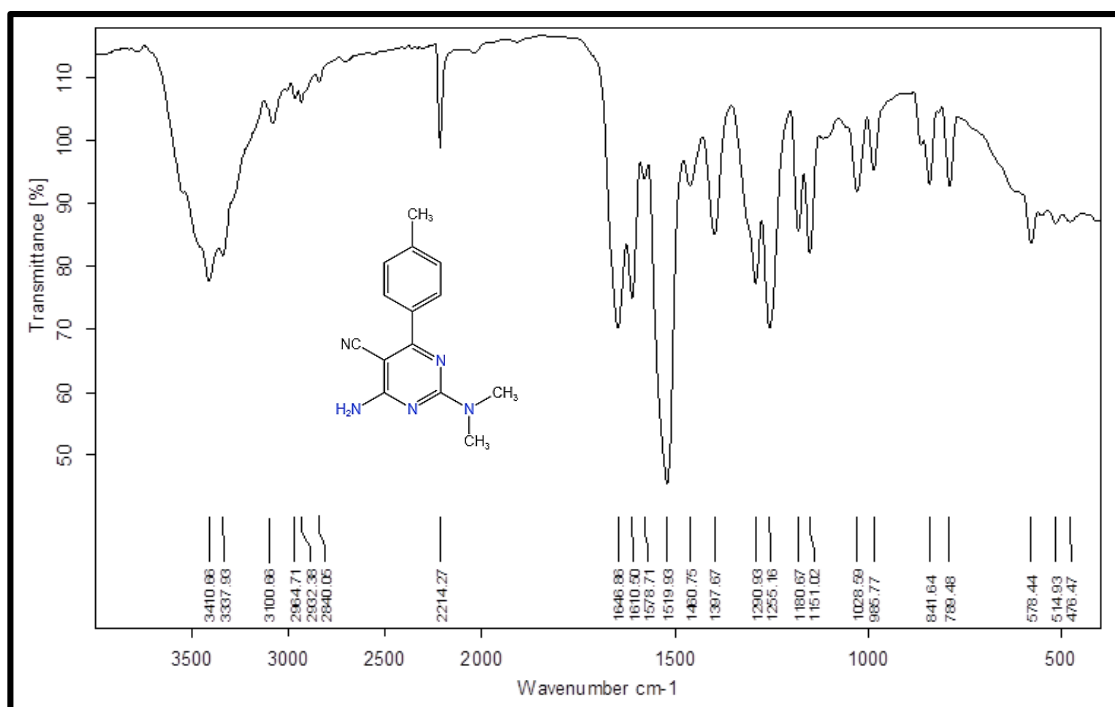


Fig 85: IR spectrum of compound 7d

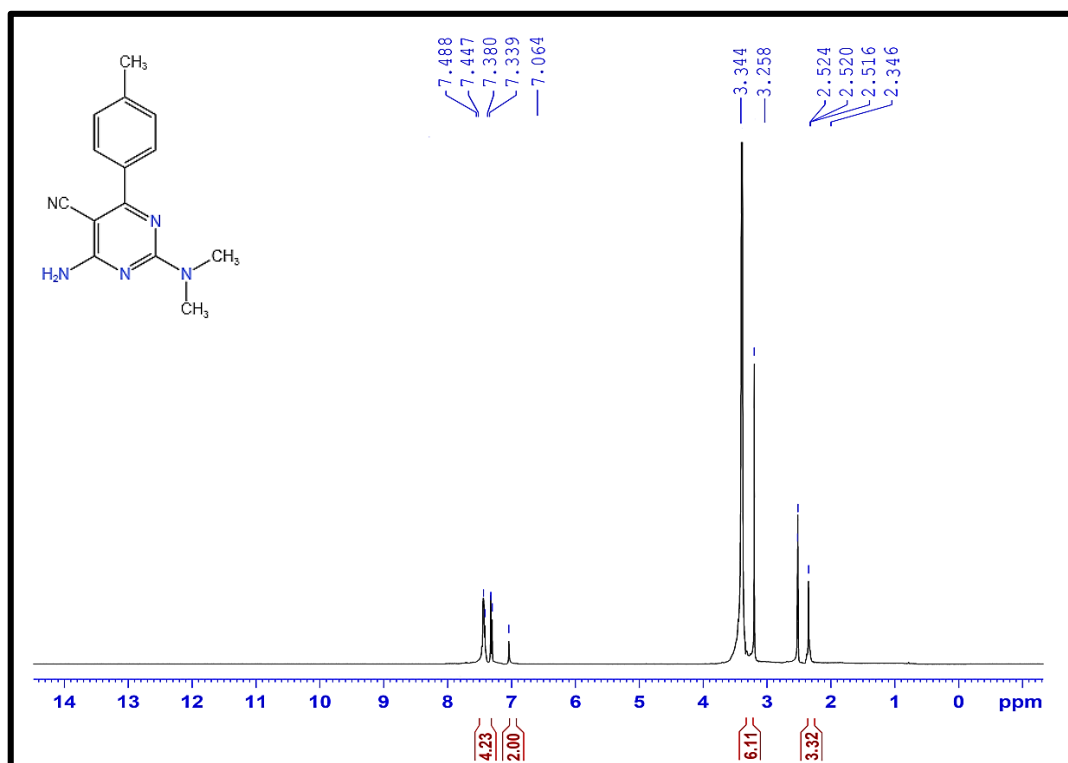


Fig 86: ¹H-NMR spectrum of compound 7d

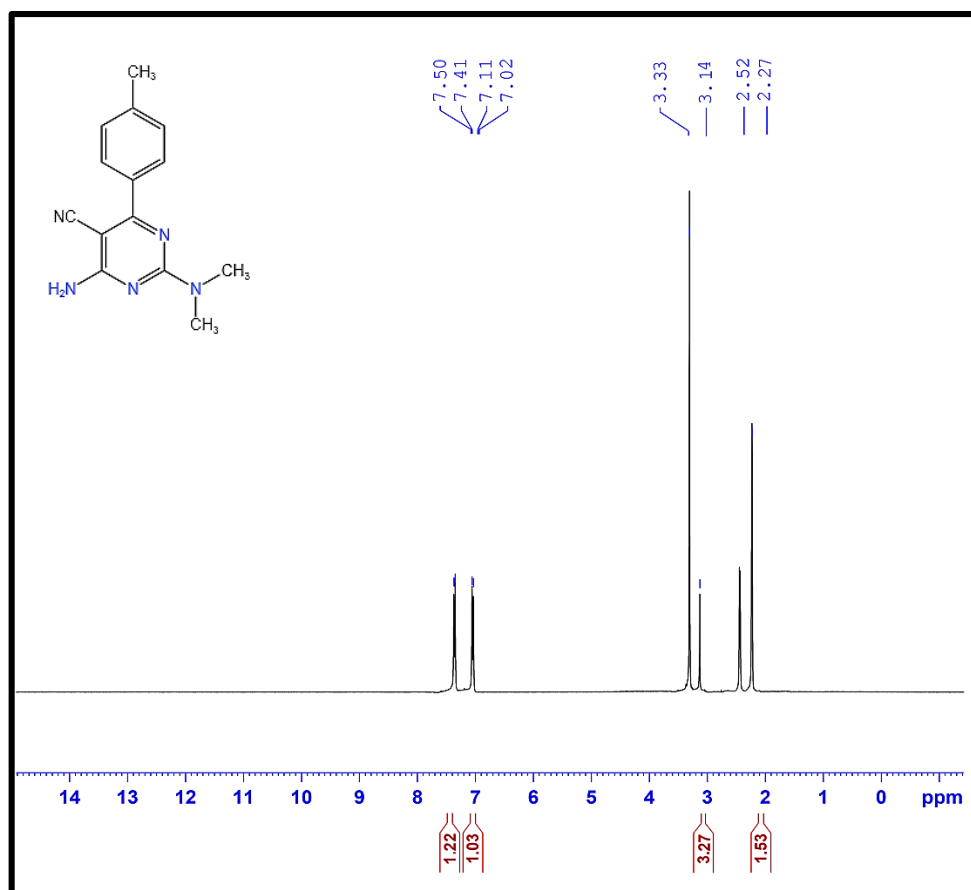


Fig 87: ¹H-NMR spectrum of compound 7d + D₂O

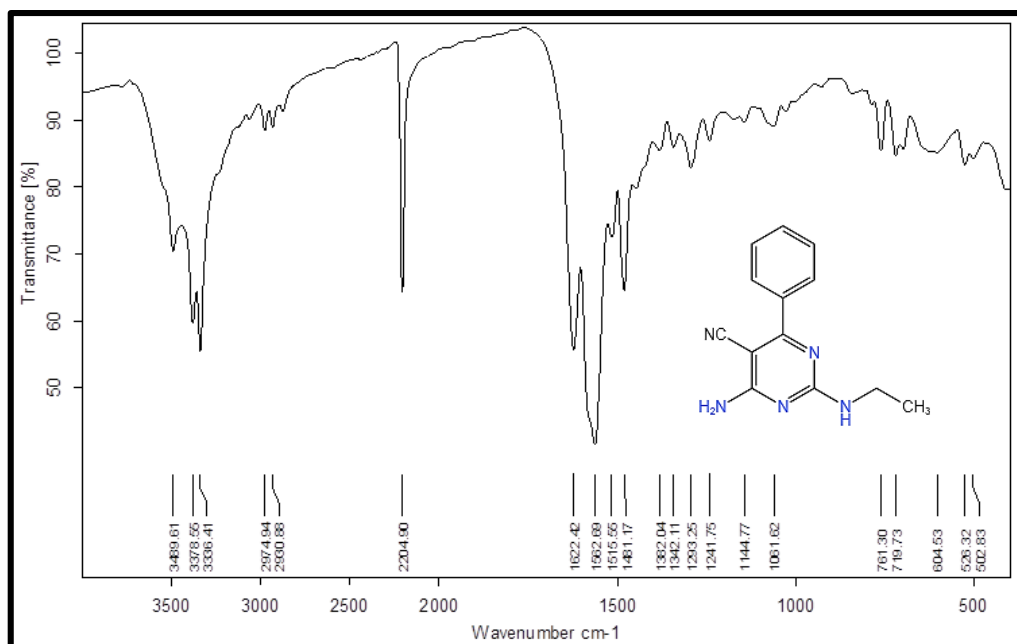


Fig 88: IR spectrum of compound 8a

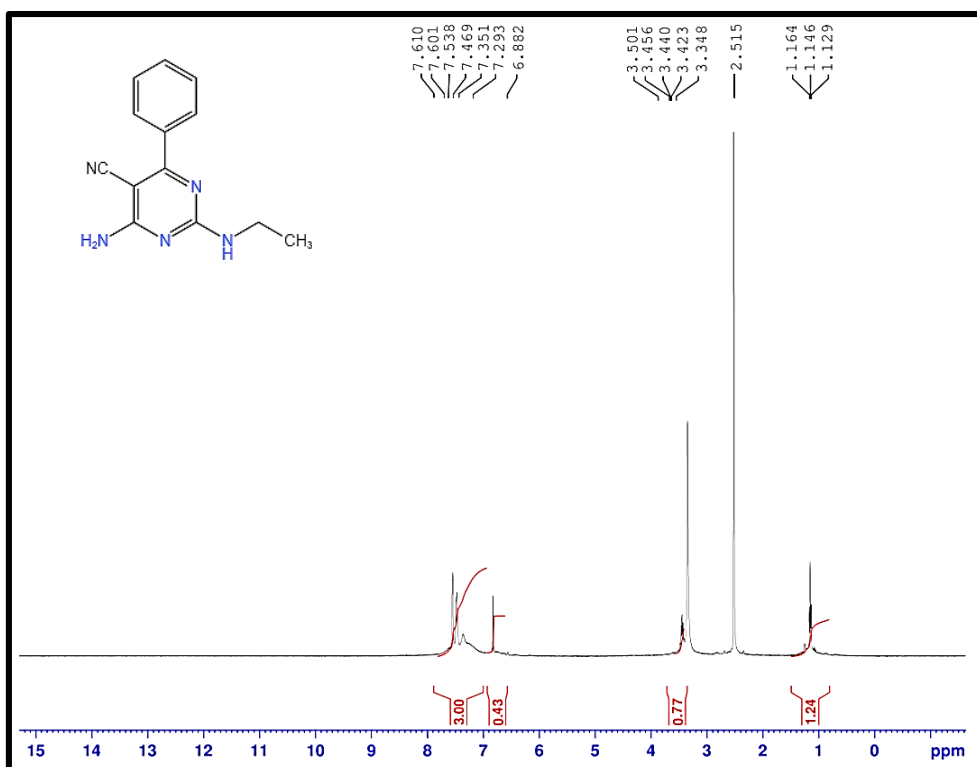


Fig 89: ¹H-NMR spectrum of compound 8a

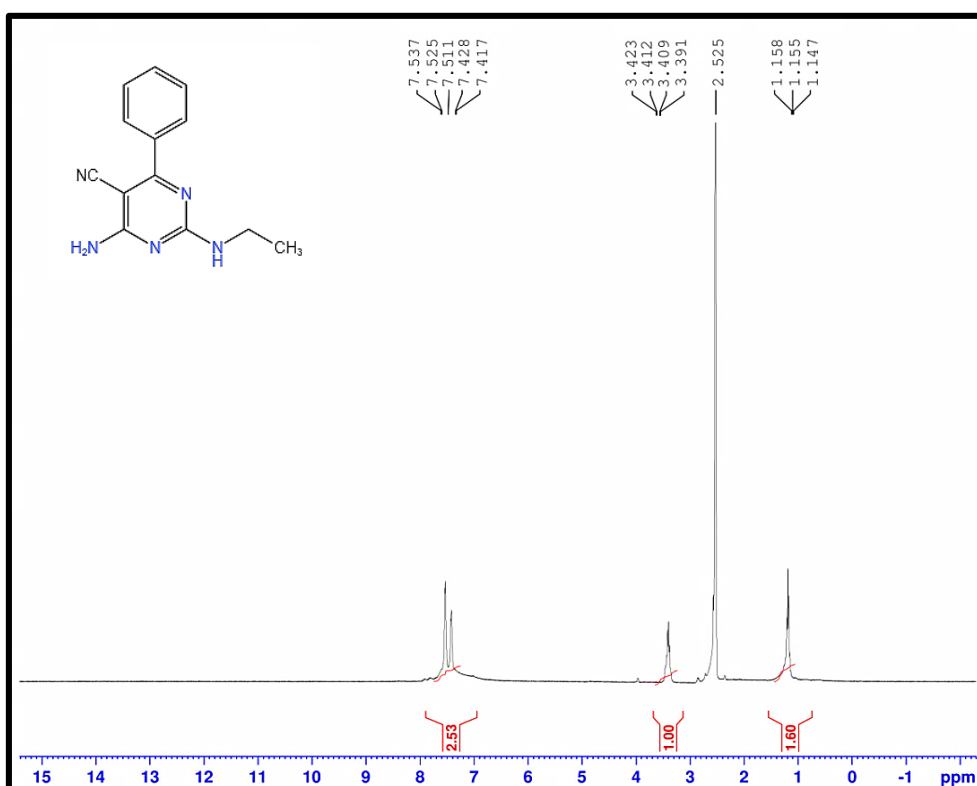


Fig 90: ¹H-NMR spectrum of compound 8a + D₂O

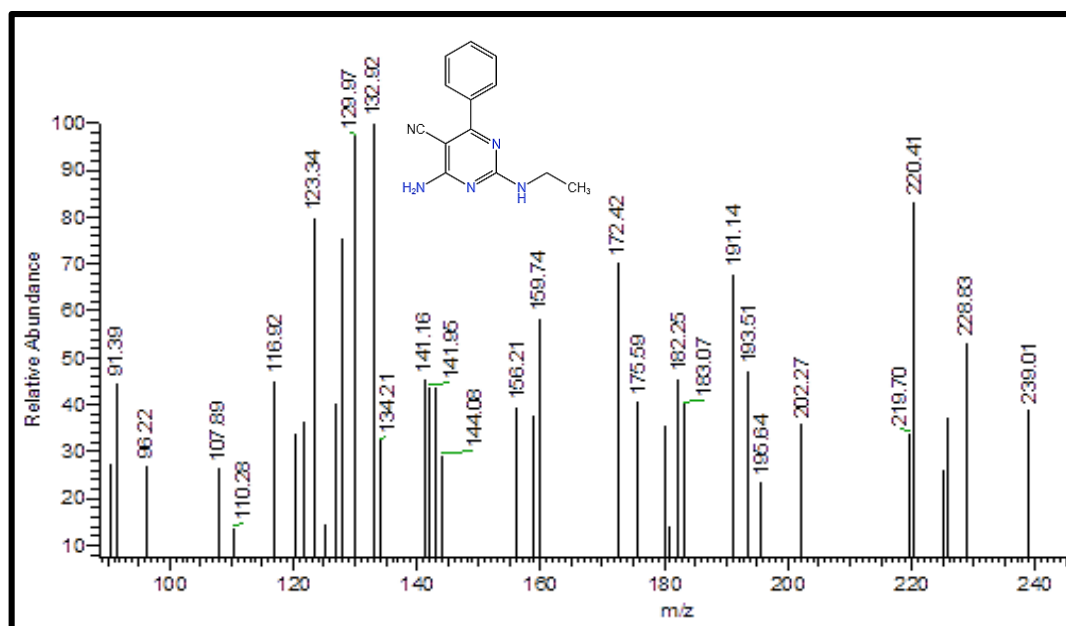


Fig 91: Mass spectrum of compound 8a

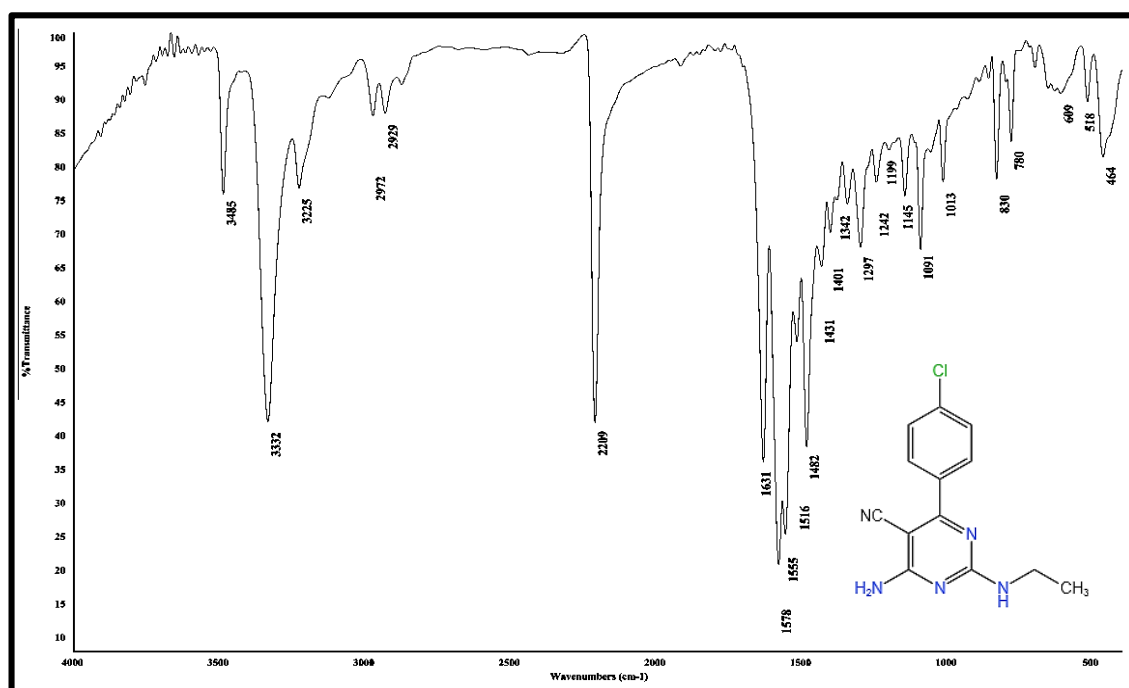


Fig 92: IR spectrum of compound 8b

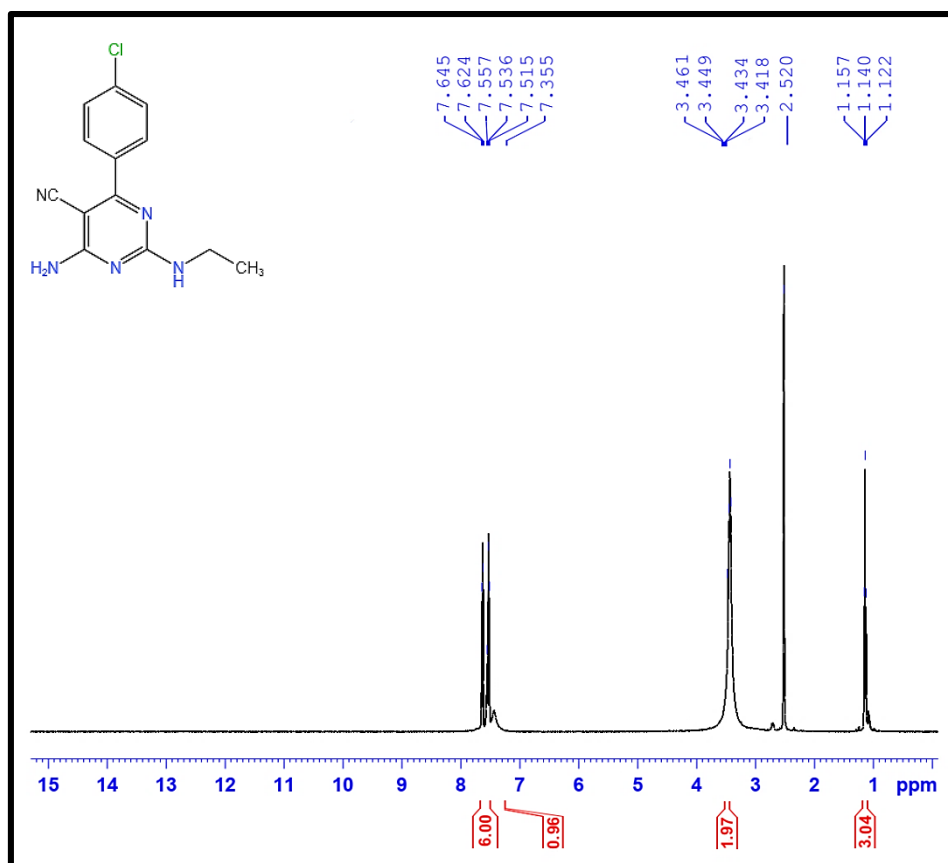


Fig 93: ¹H-NMR spectrum of compound 8b

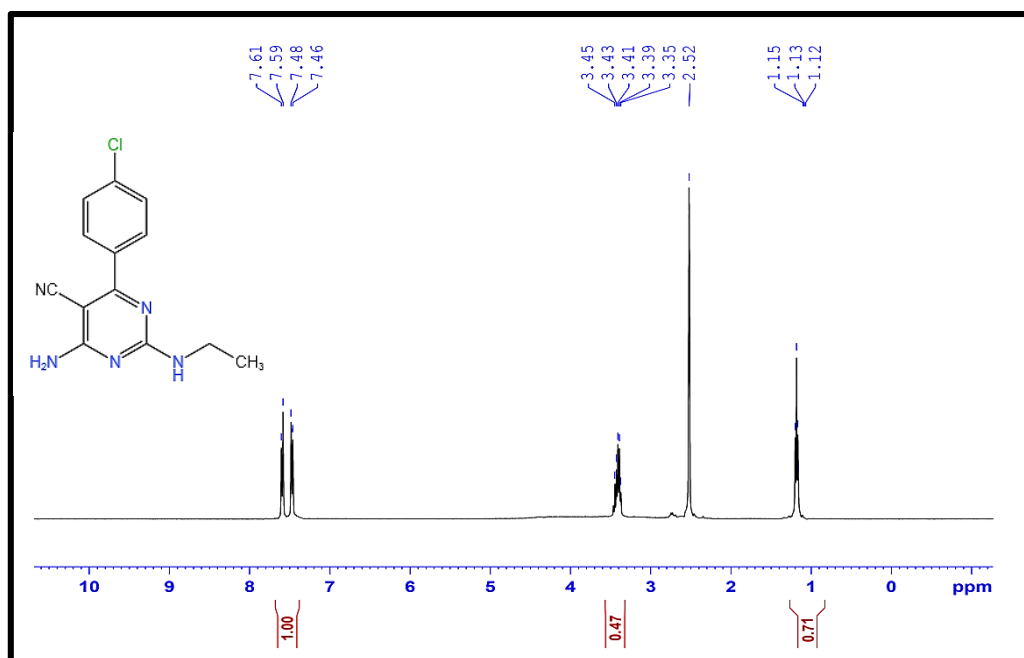


Fig 94: ¹H-NMR spectrum of compound 8b + D₂O

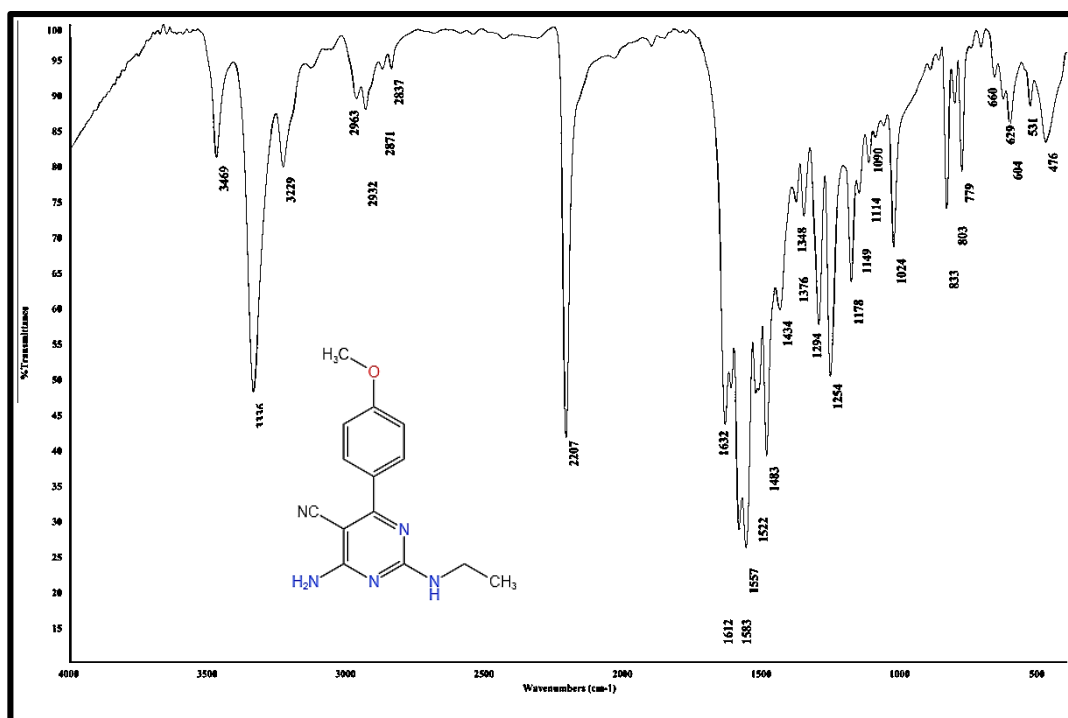


Fig 95: IR spectrum of compound 8c

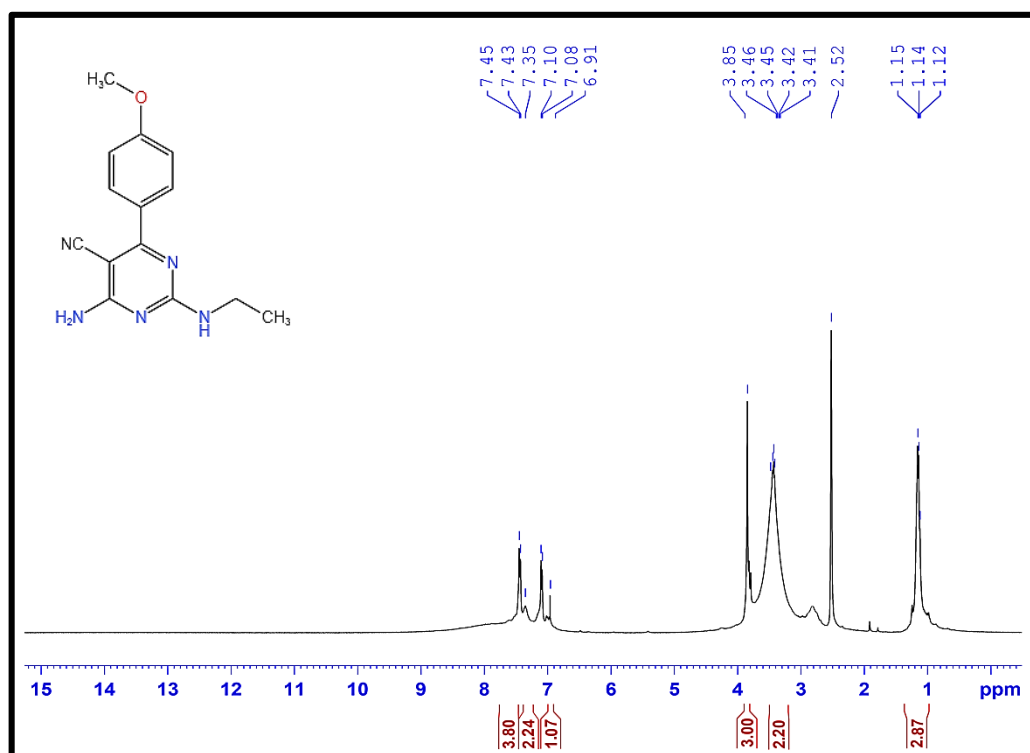


Fig 96: ¹H-NMR spectrum of compound 8c

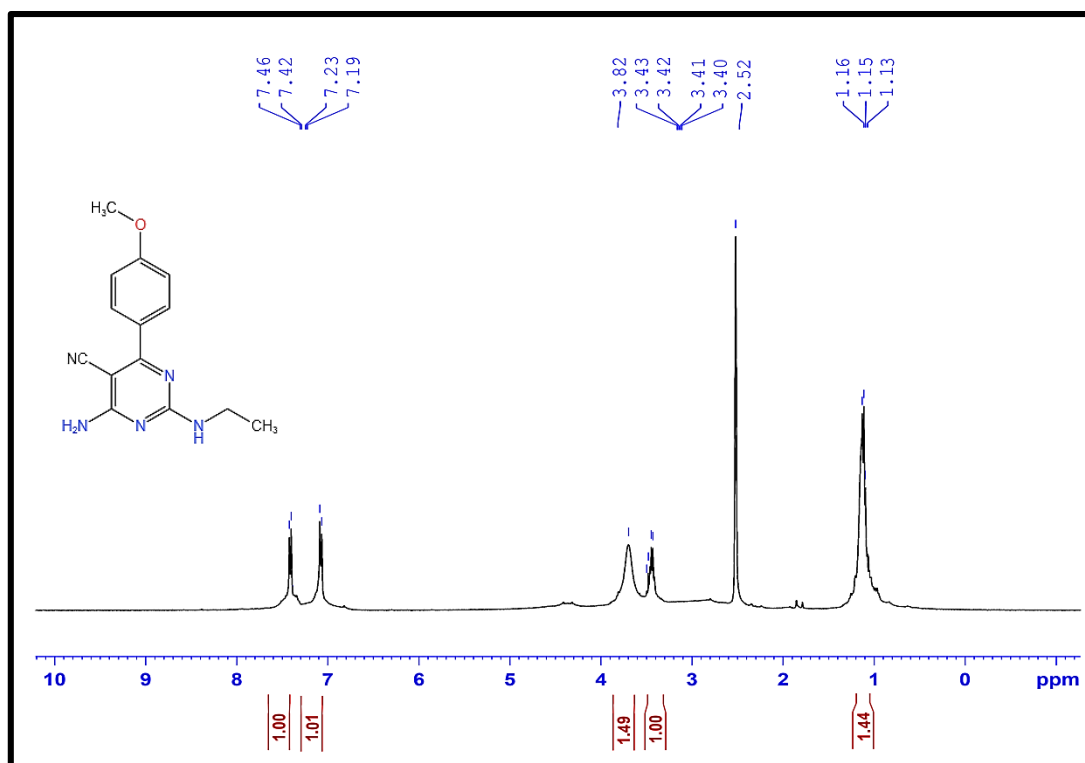


Fig 97: ¹H-NMR spectrum of compound 8c + D₂O

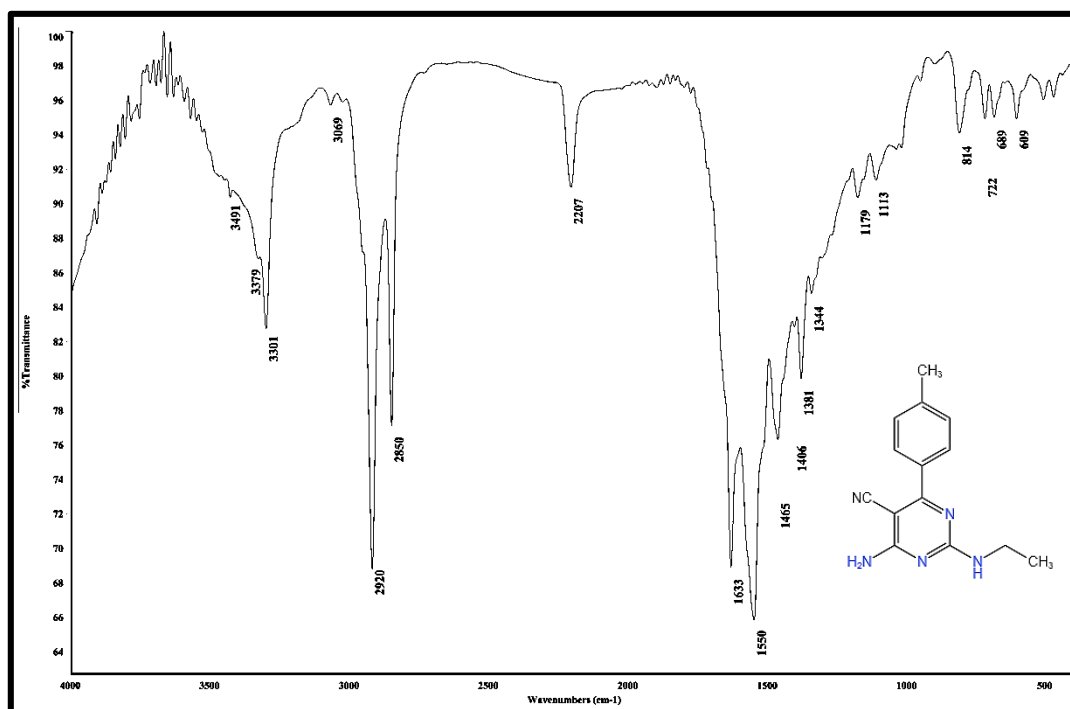


Fig 98: IR spectrum of compound 8d

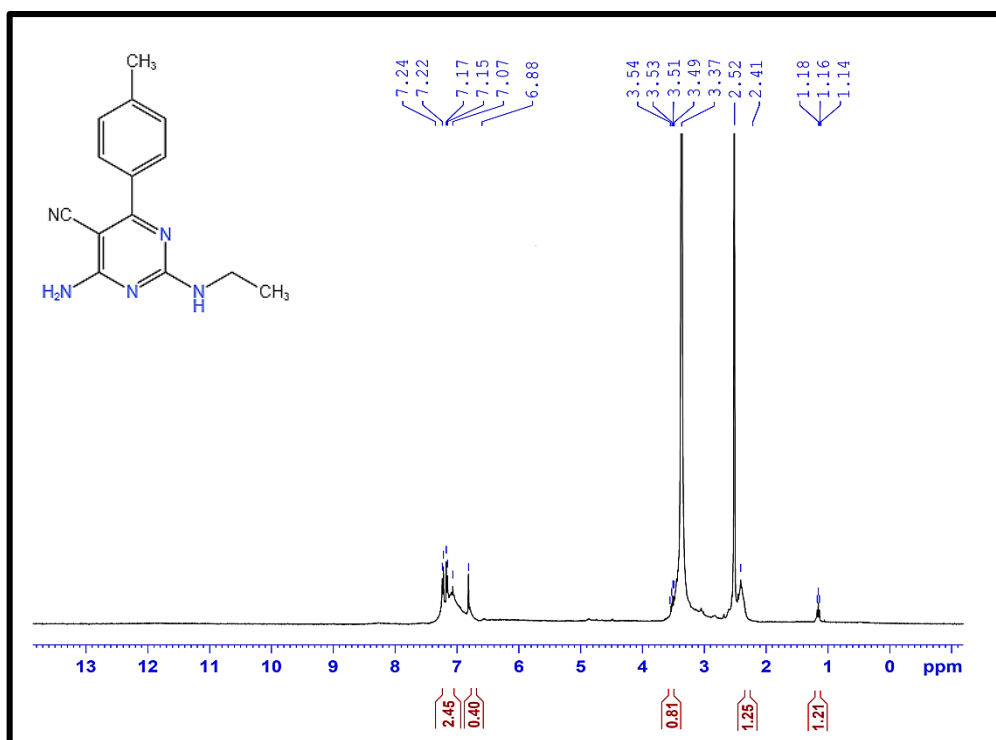


Fig 99: ^1H -NMR spectrum of compound 8d

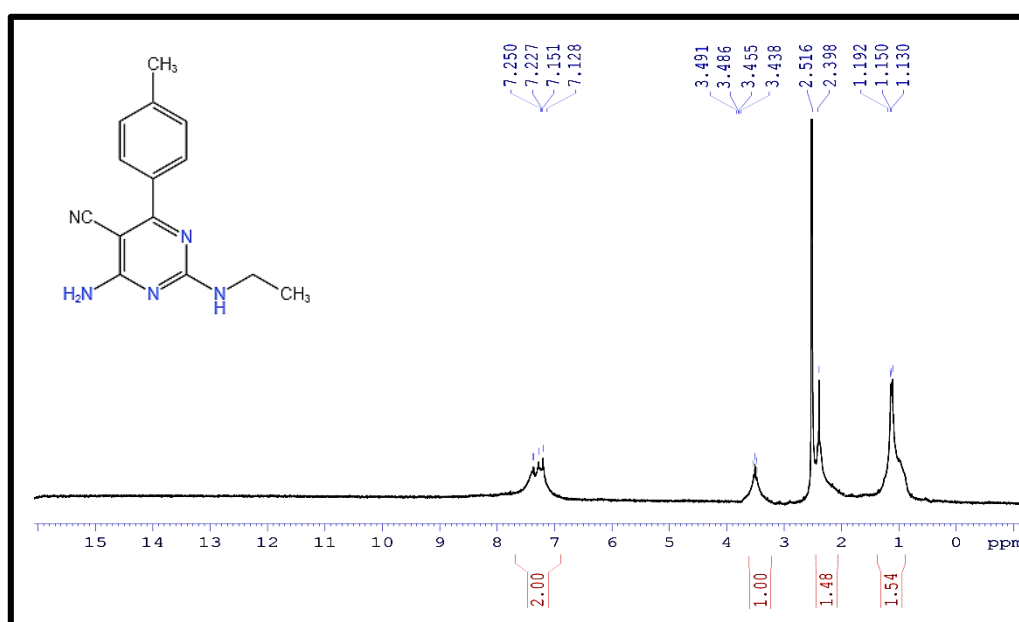


Fig 100: ^1H -NMR spectrum of compound 8d + D_2O

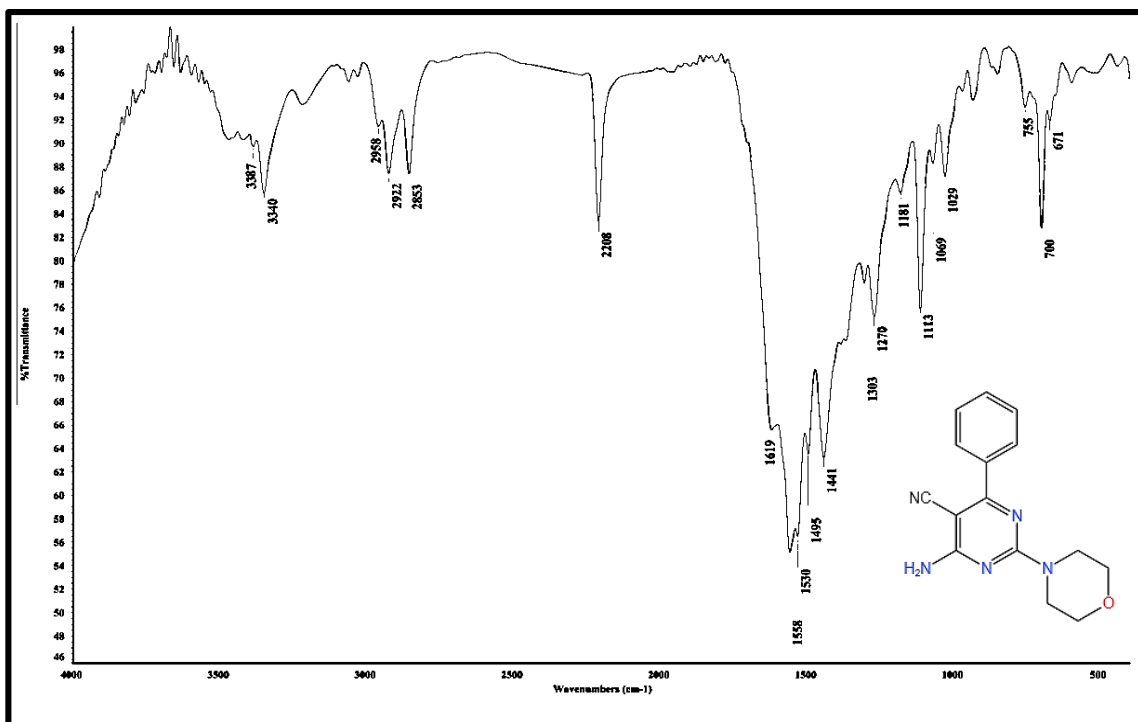


Fig 101: IR spectrum of compound 9a

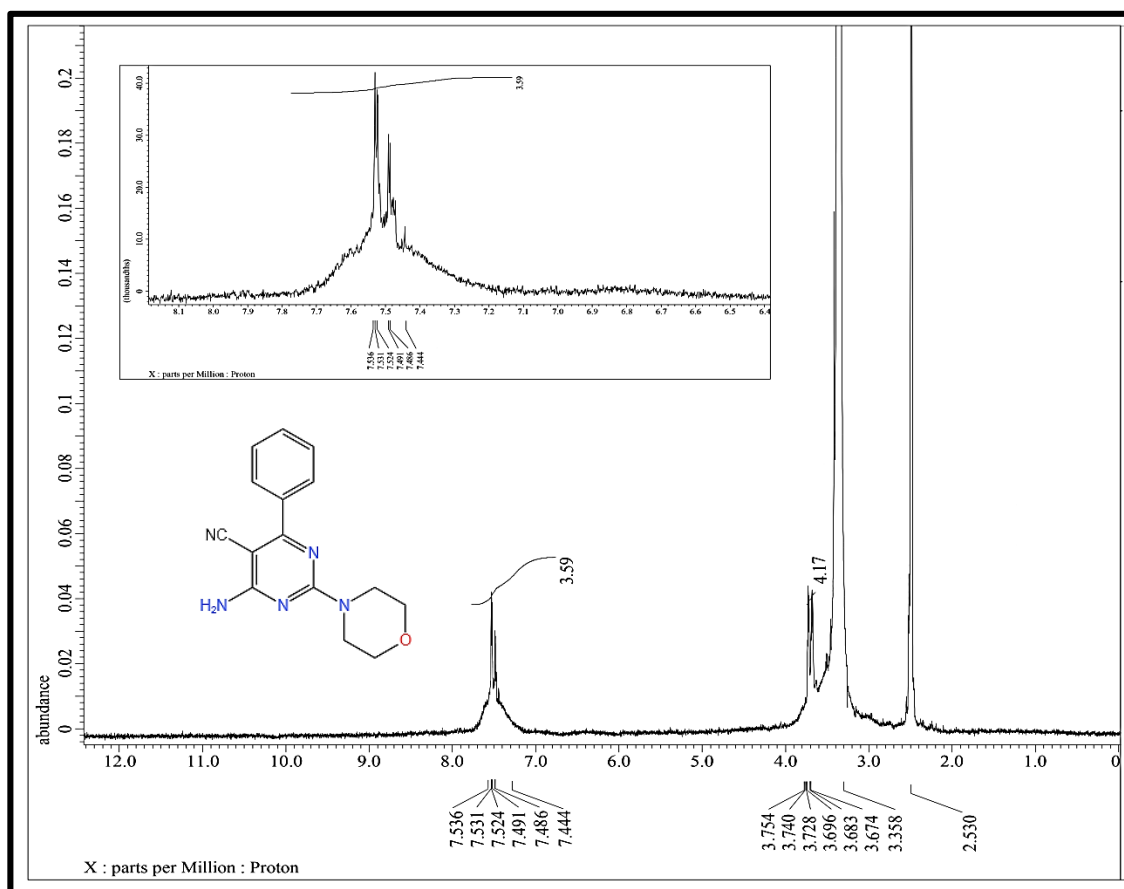


Fig 102: ¹H-NMR spectrum of compound 9a

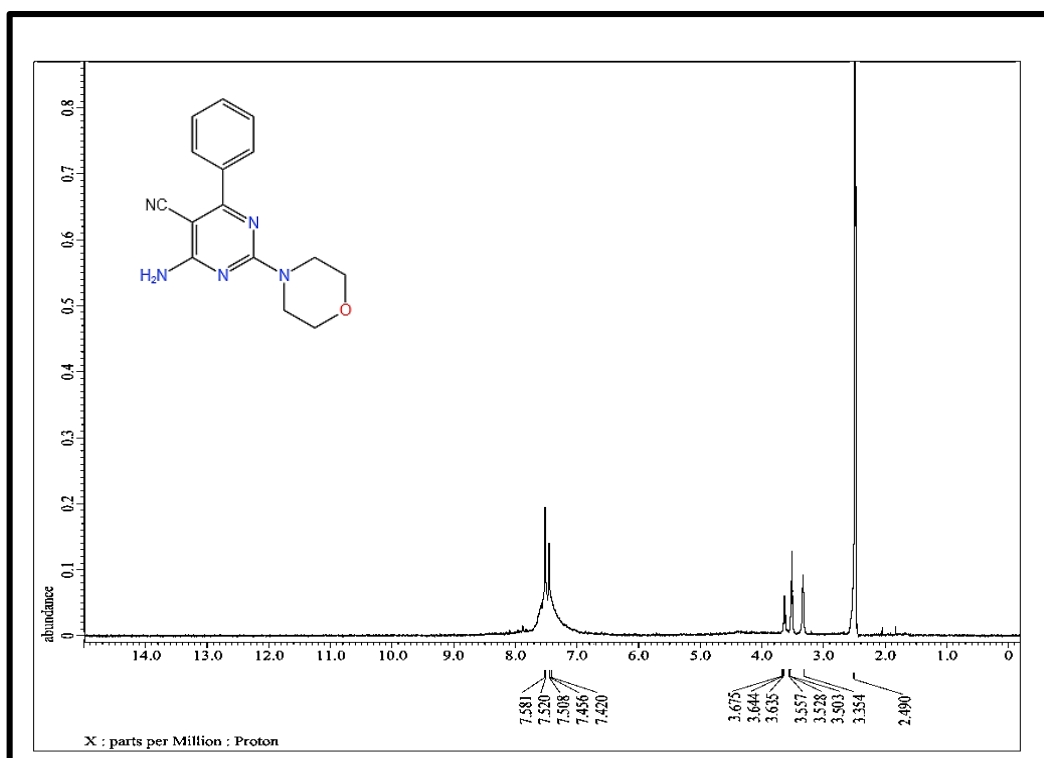


Fig 103: ¹H-NMR spectrum of compound 9a + D₂O

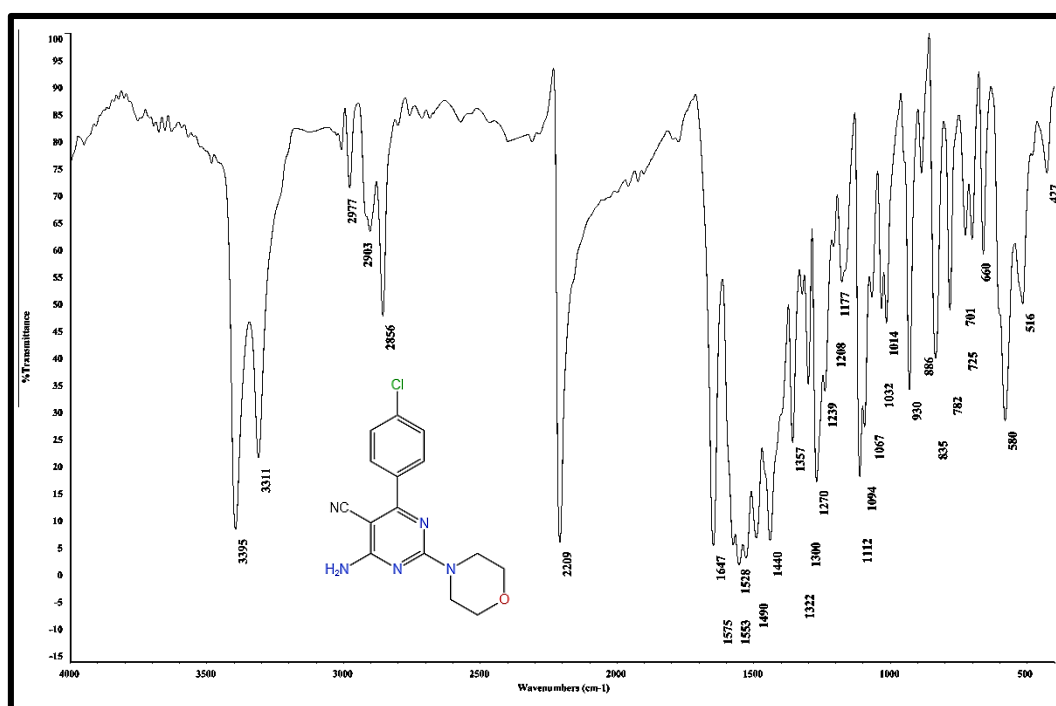


Fig 104: IR spectrum of compound 9b

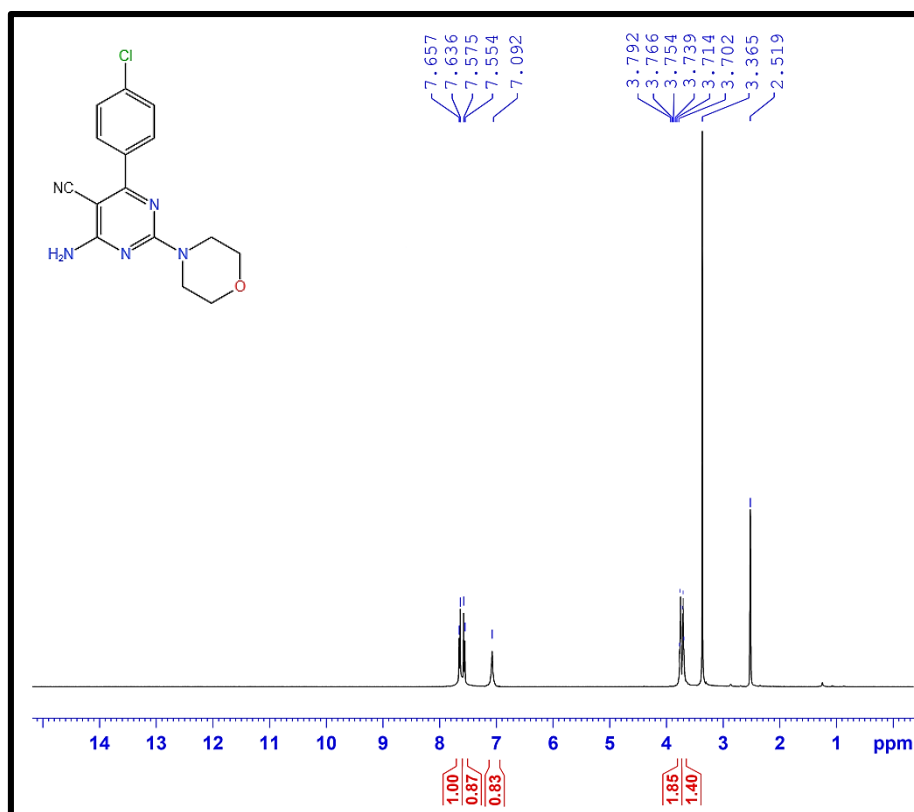


Fig 105: ¹H-NMR spectrum of compound 9b



Fig 106: ¹³C-NMR spectrum of compound 9b

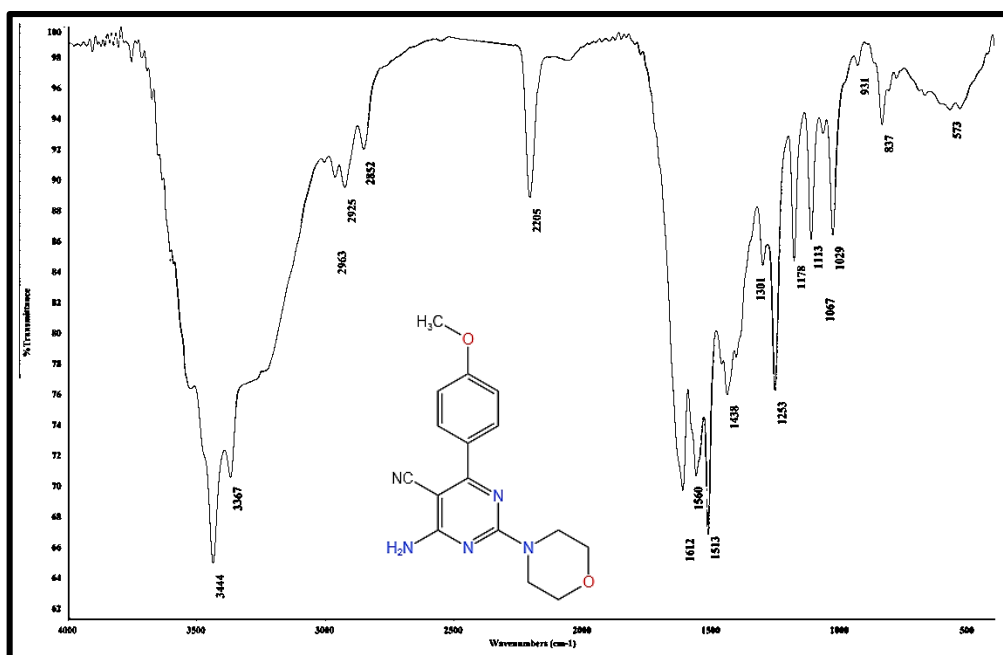


Fig 107: IR spectrum of compound 9c

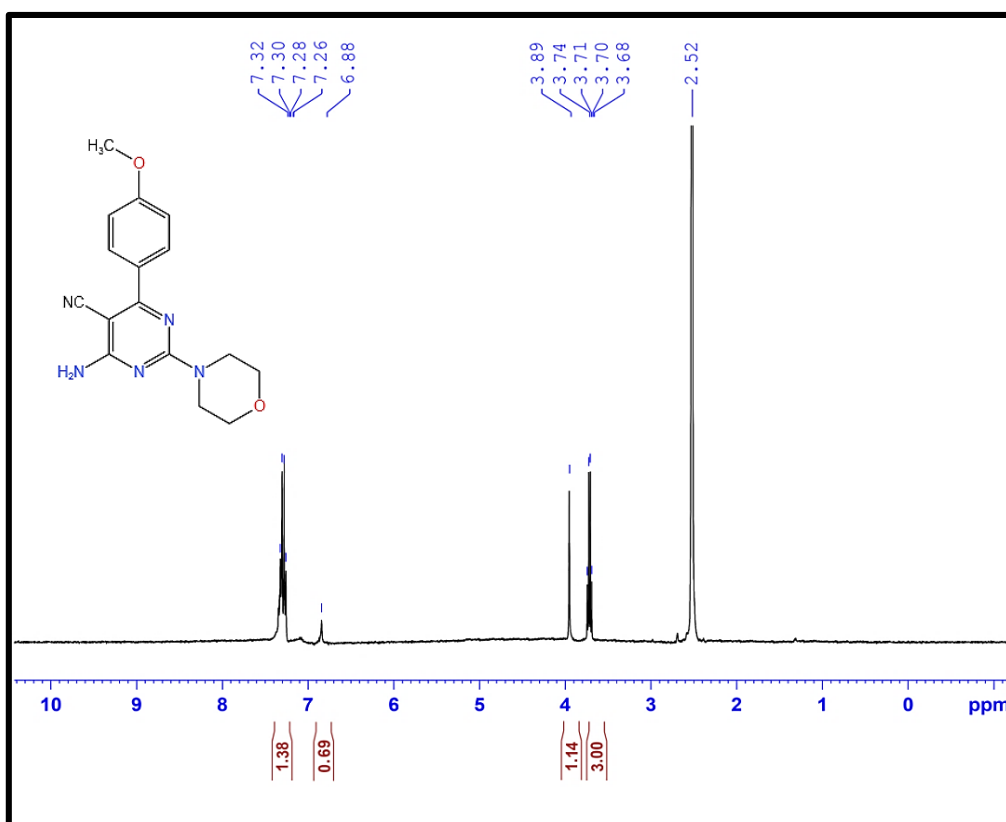


Fig 108: ¹H-NMR spectrum of compound 9c

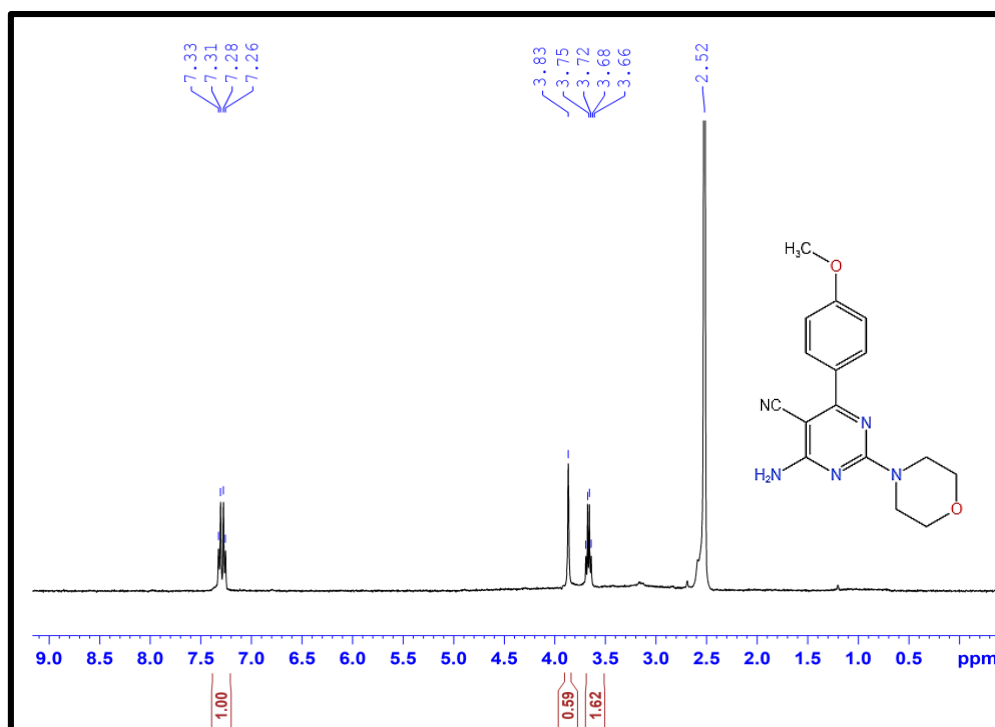


Fig 109: ¹H-NMR spectrum of compound 9c + D₂O

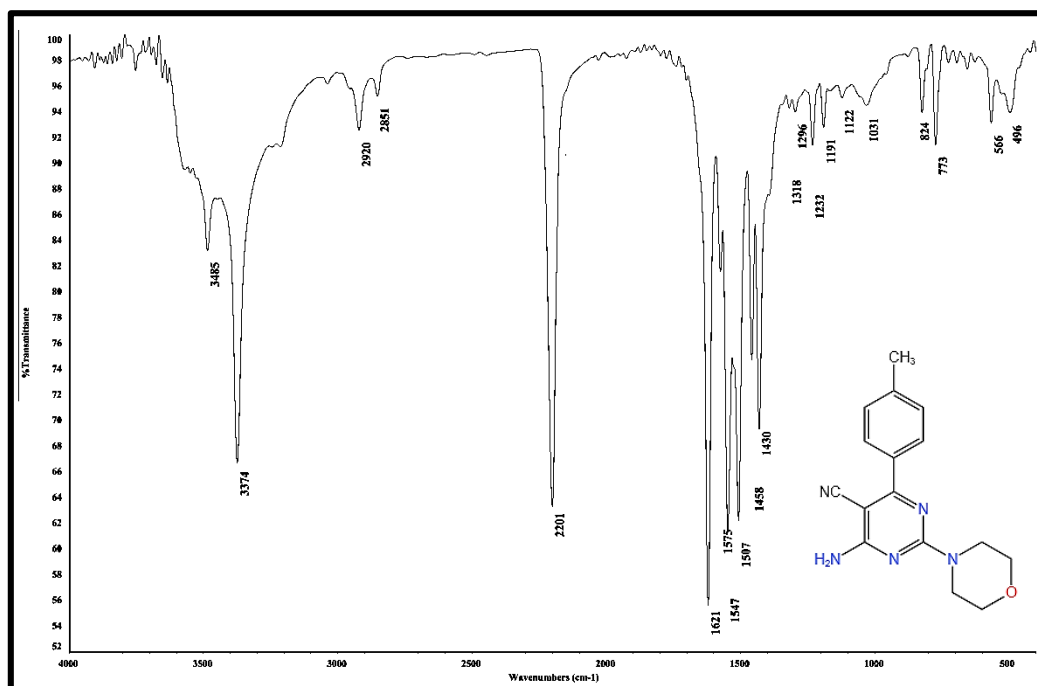


Fig 110: IR spectrum of compound 9d

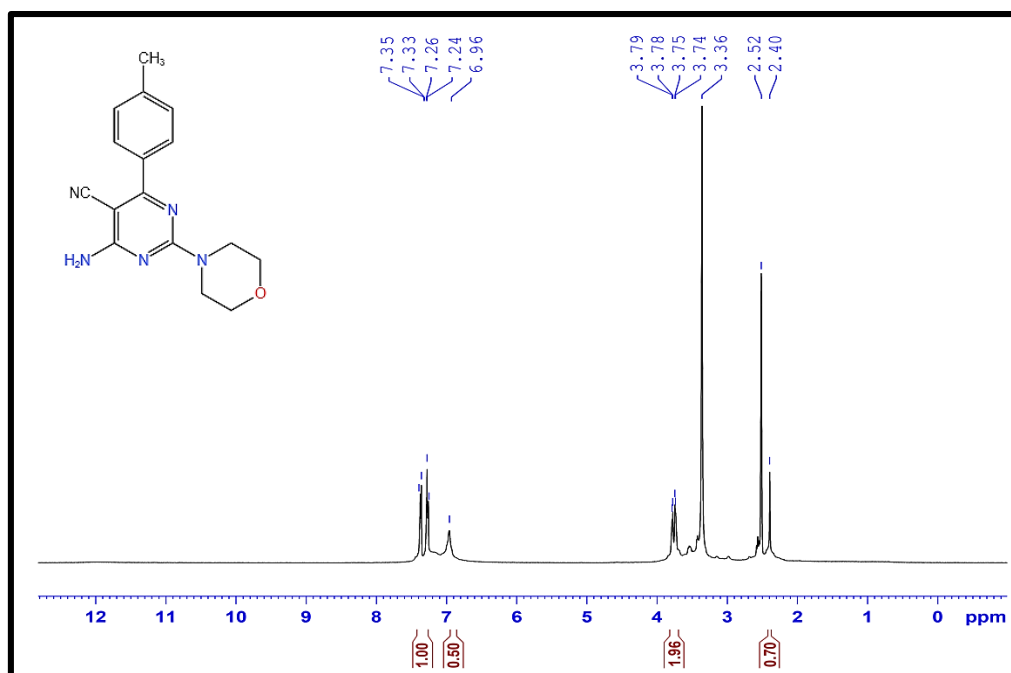


Fig 111: ¹H-NMR spectrum of compound 9d

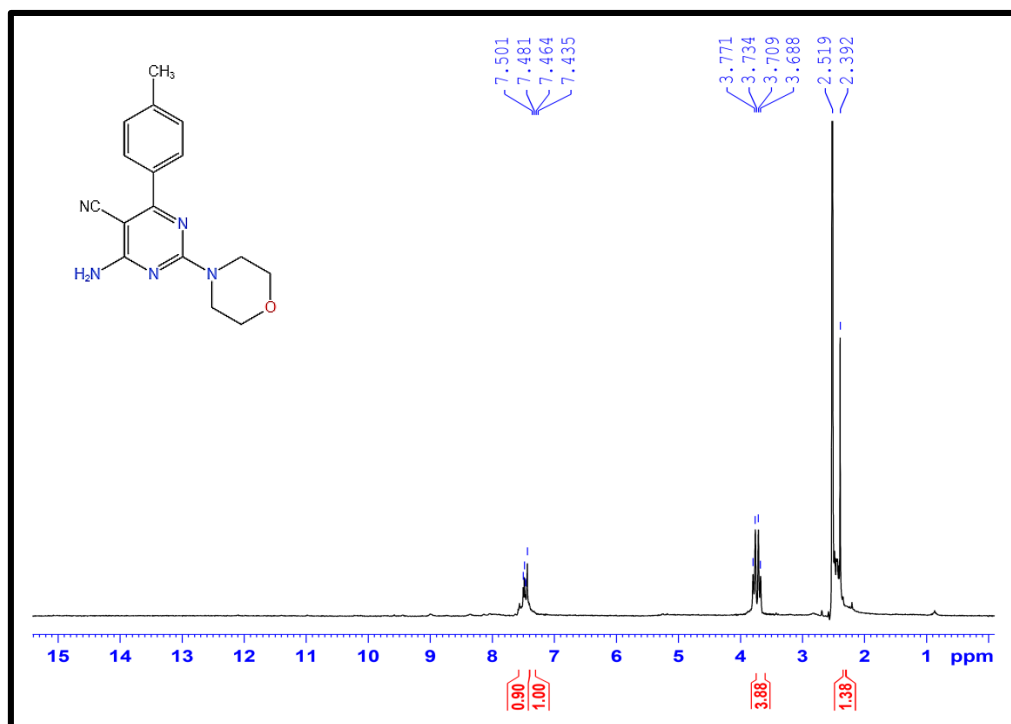


Fig 112: ¹H-NMR spectrum of compound 9d + D₂O

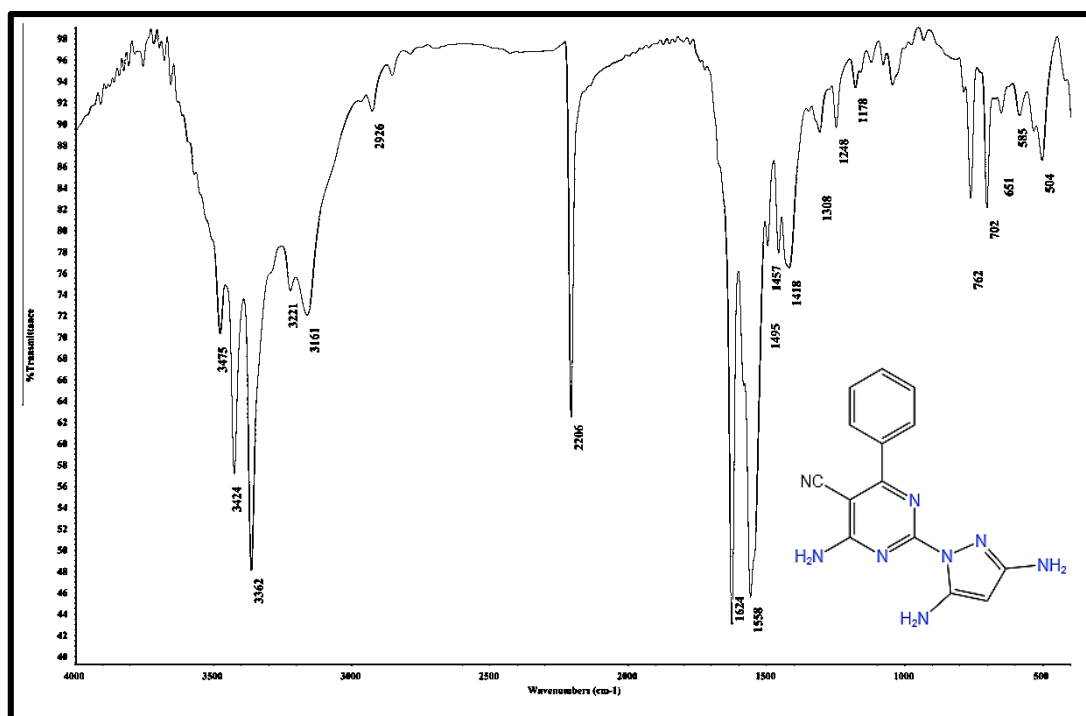


Fig 113: IR spectrum of compound 10a

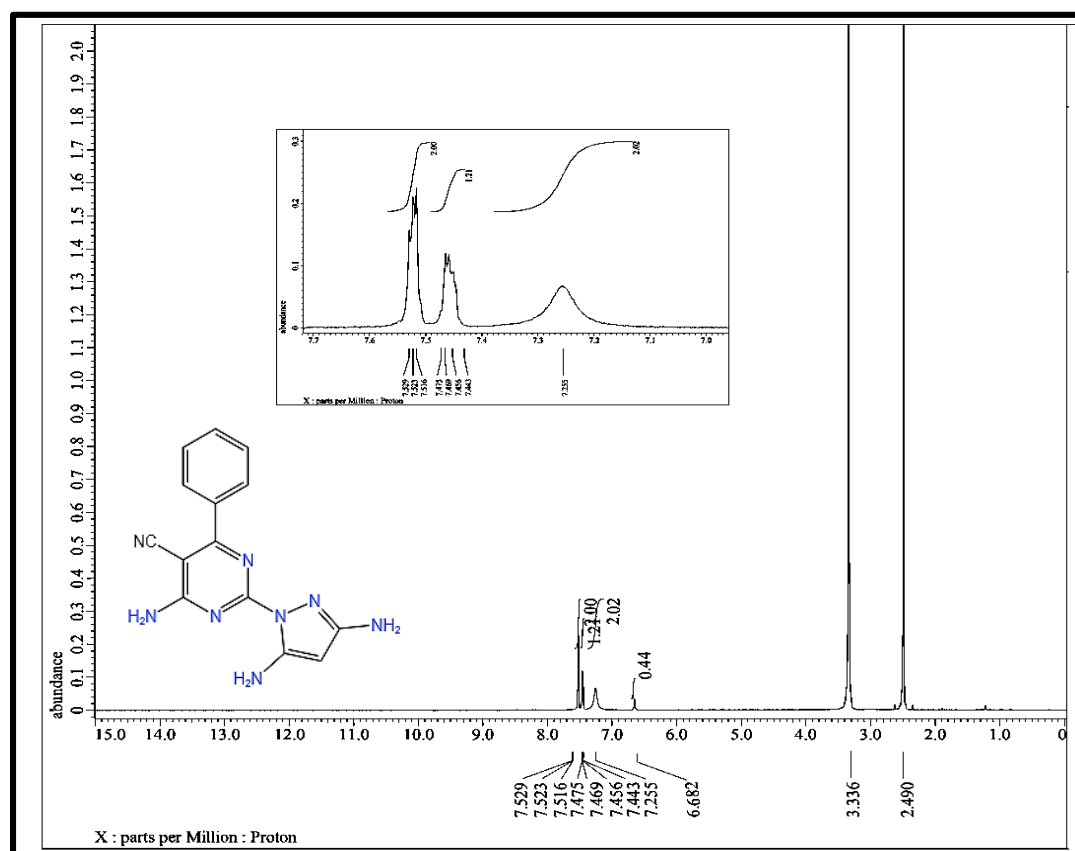


Fig 114: ¹H-NMR spectrum of compound 10a

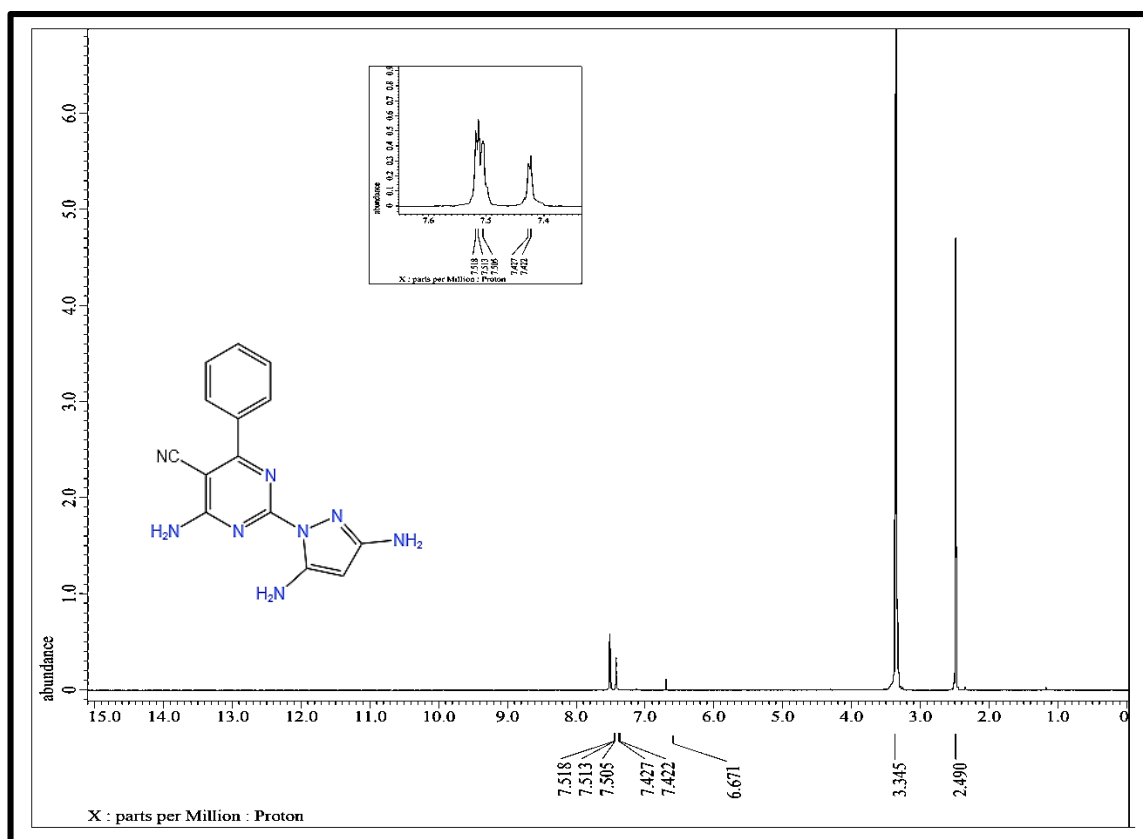


Fig 115: ¹H-NMR spectrum of compound 10a + D₂O

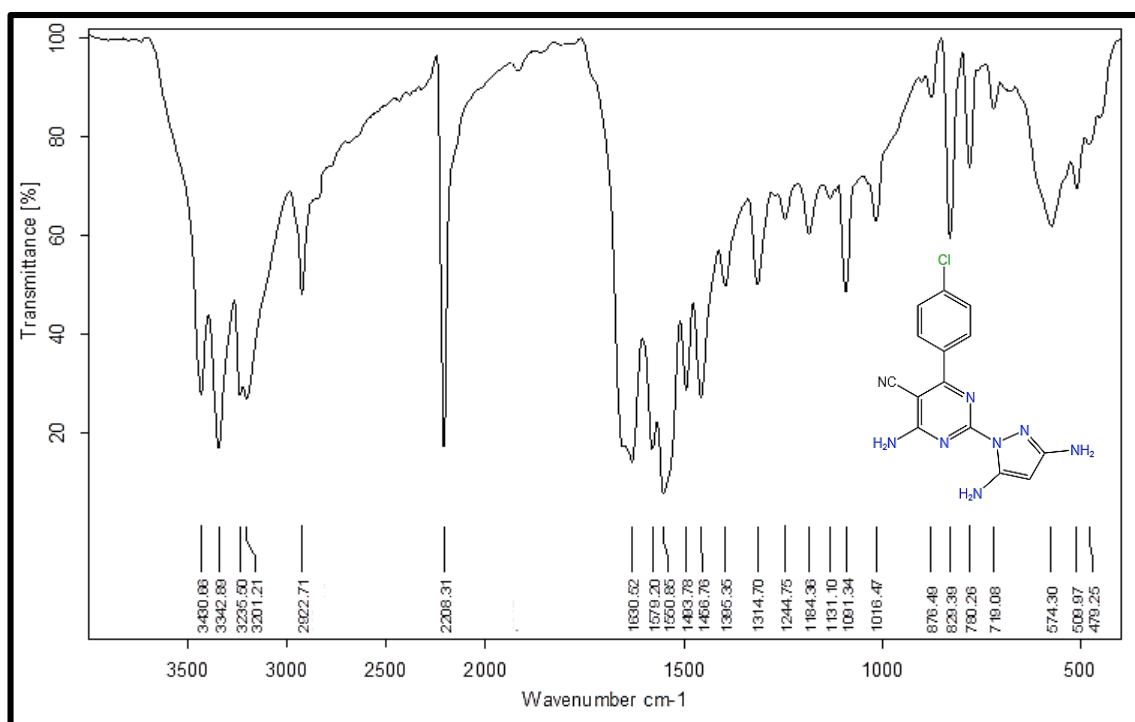


Fig 116: IR spectrum of compound 10b

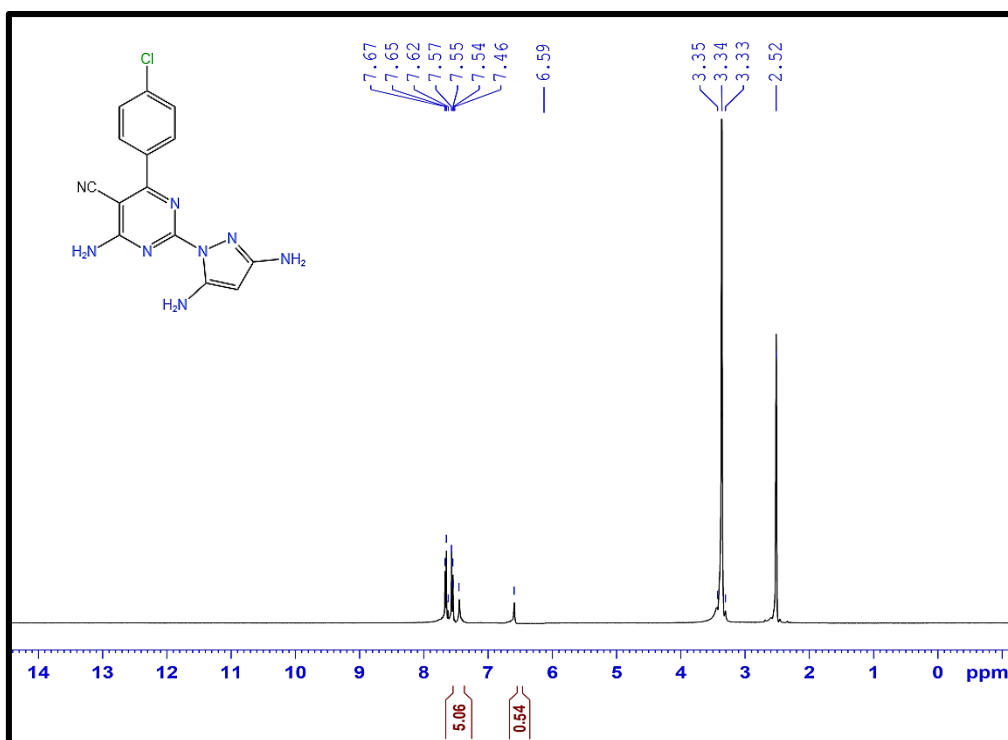


Fig 117: ¹H-NMR spectrum of compound 10b

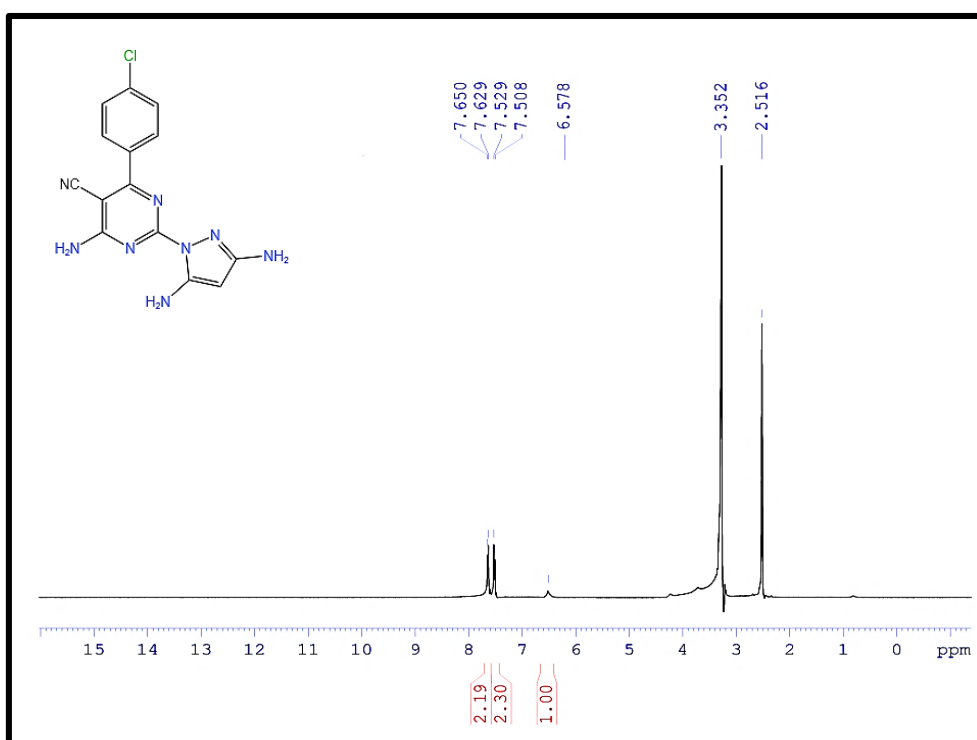


Fig 118: ¹H-NMR spectrum of compound 10b + D₂O

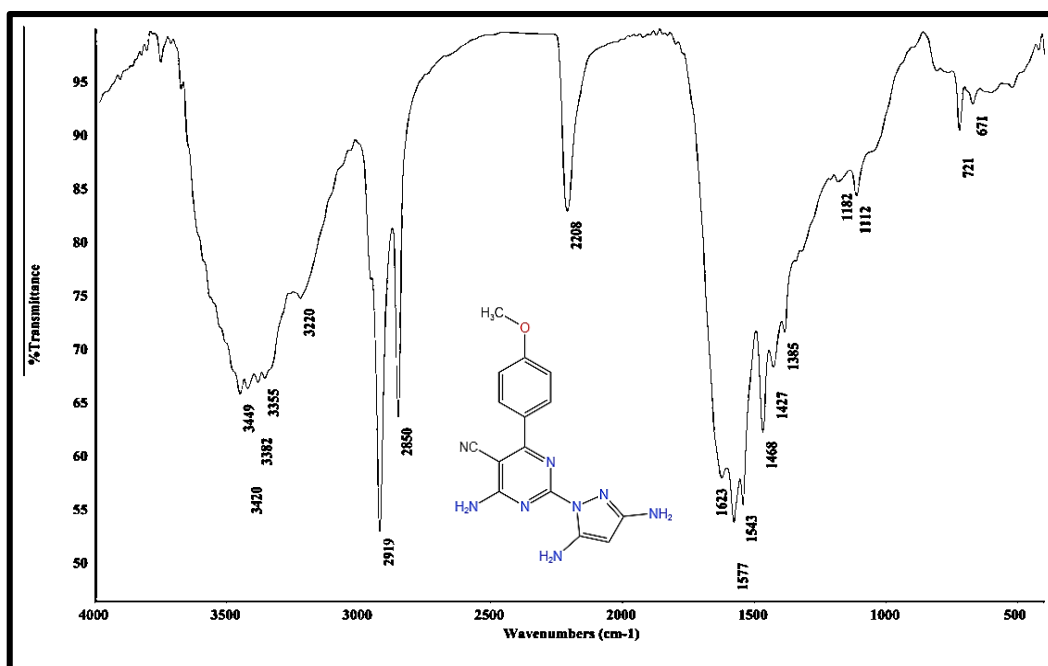


Fig 119: IR spectrum of compound 10c

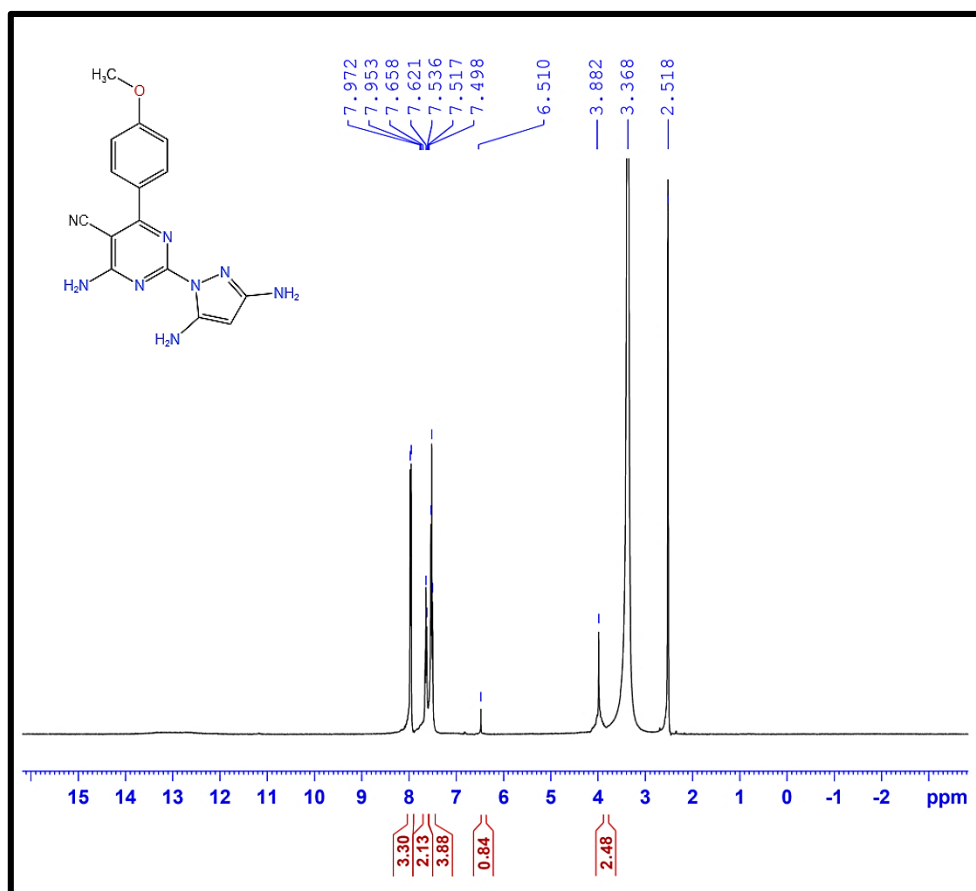


Fig 120: ¹H-NMR spectrum of compound 10c

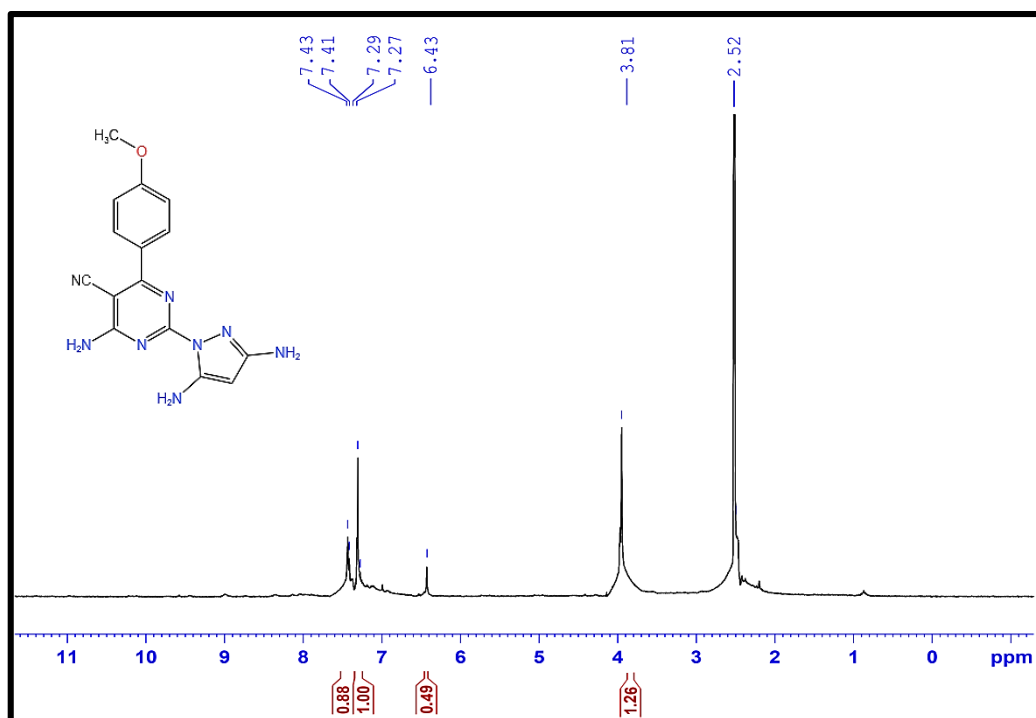


Fig 121: ¹H-NMR spectrum of compound 10c + D₂O

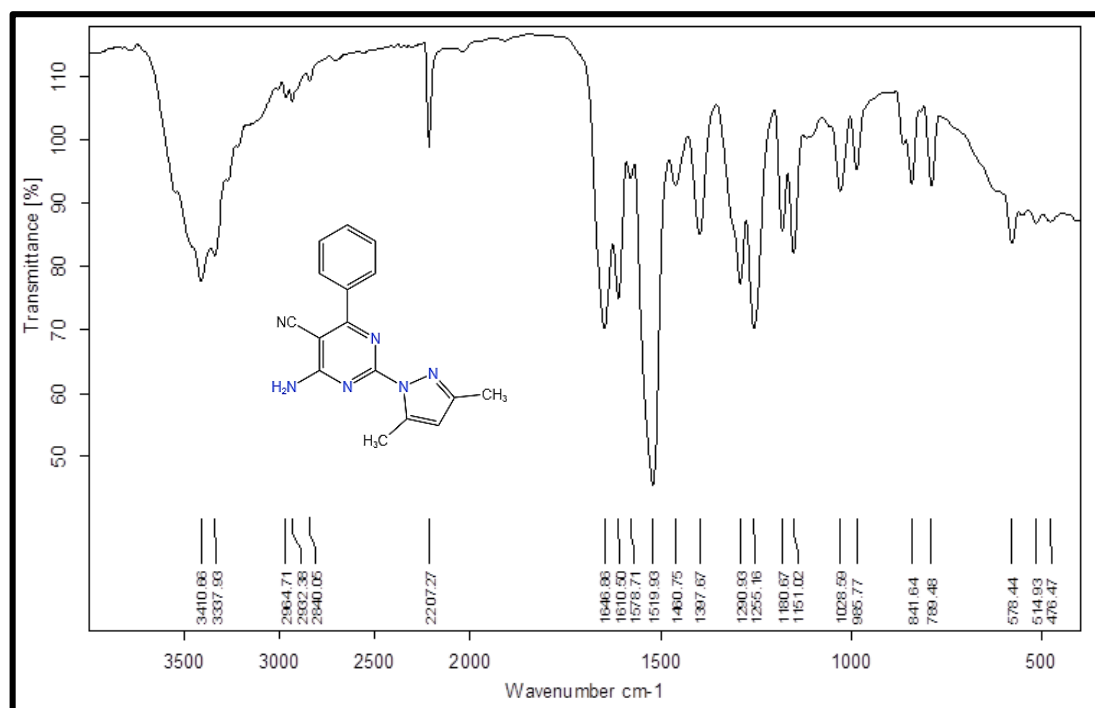


Fig 122: IR spectrum of compound 11a

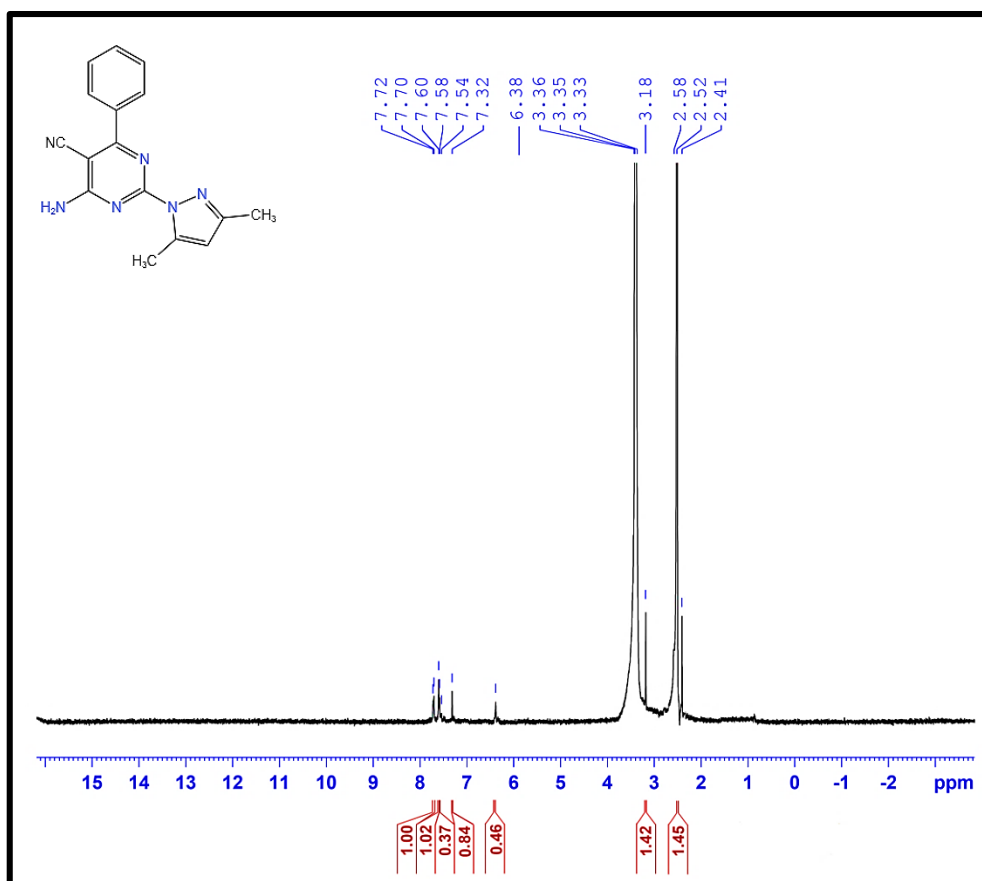


Fig 123: ¹H-NMR spectrum of compound 11a

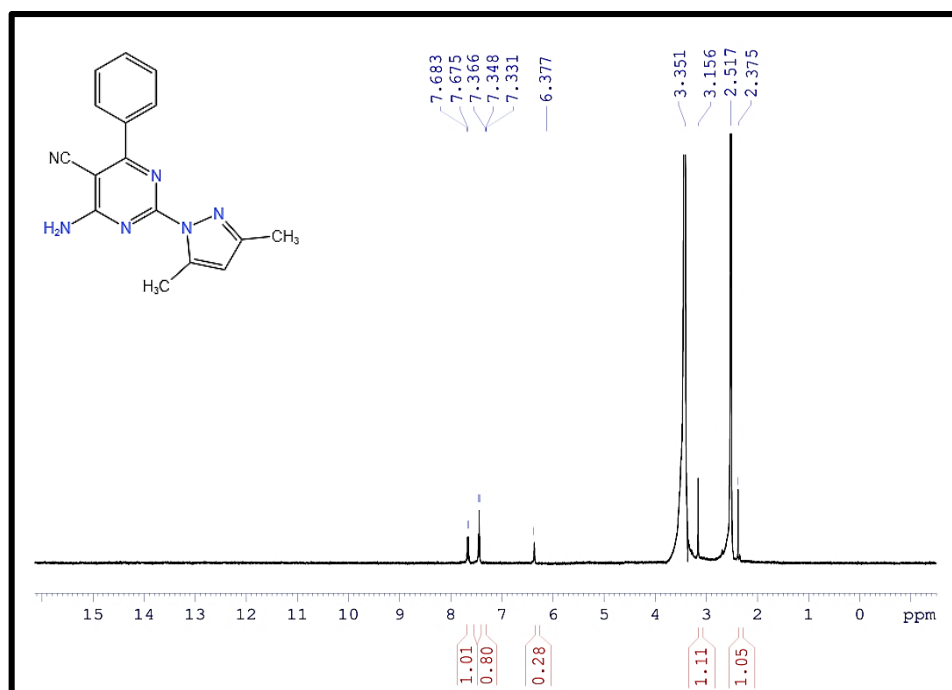


Fig 124: ¹H-NMR spectrum of compound 11a + D₂O

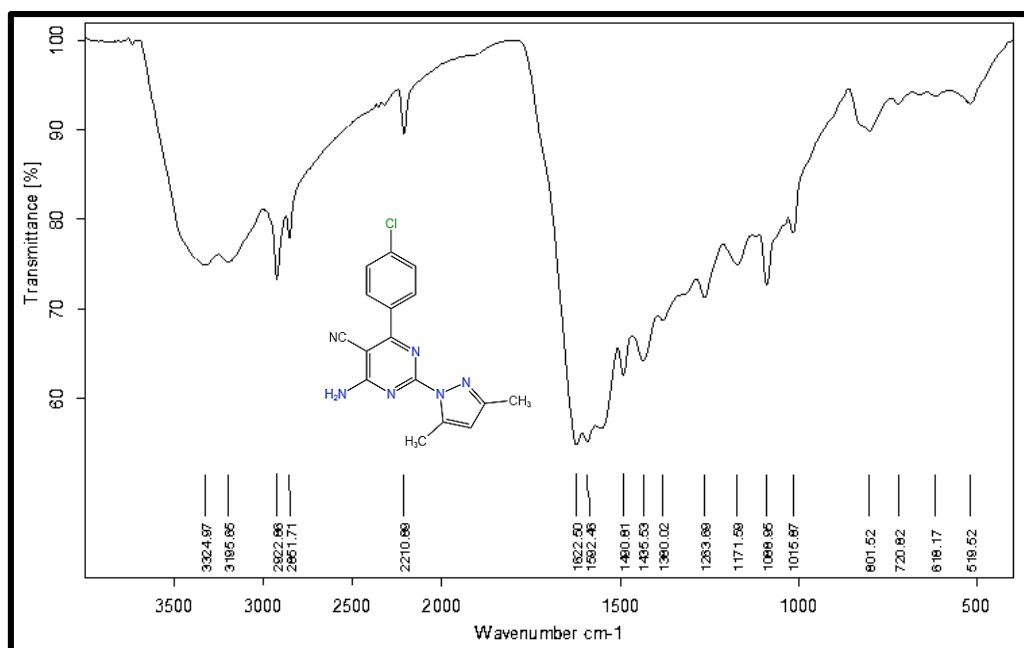


Fig 125: IR spectrum of compound 11b

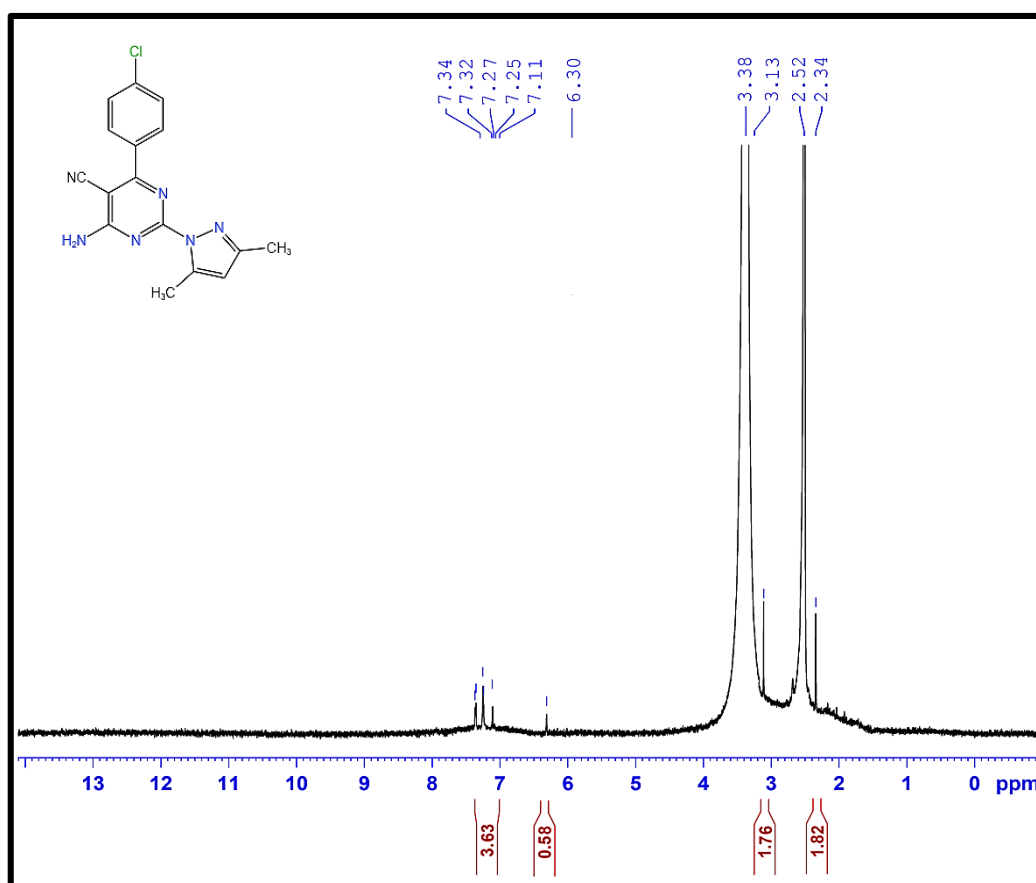


Fig 126: ¹H-NMR spectrum of compound 11b

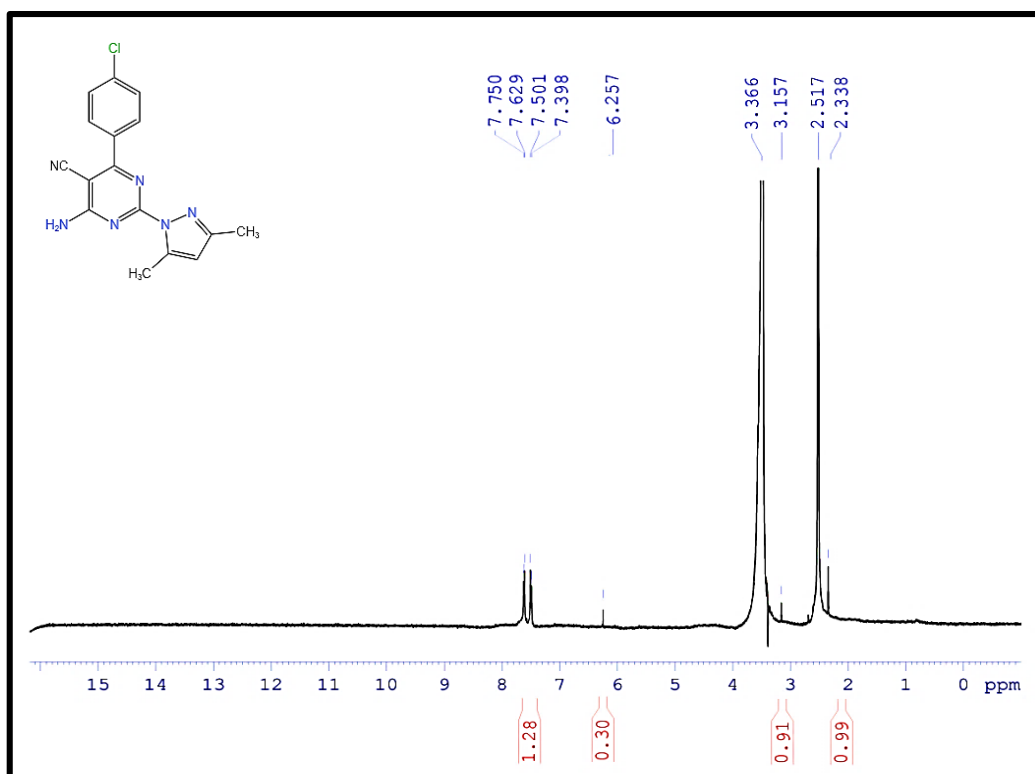


Fig 127: ^1H -NMR spectrum of compound 11b + D_2O

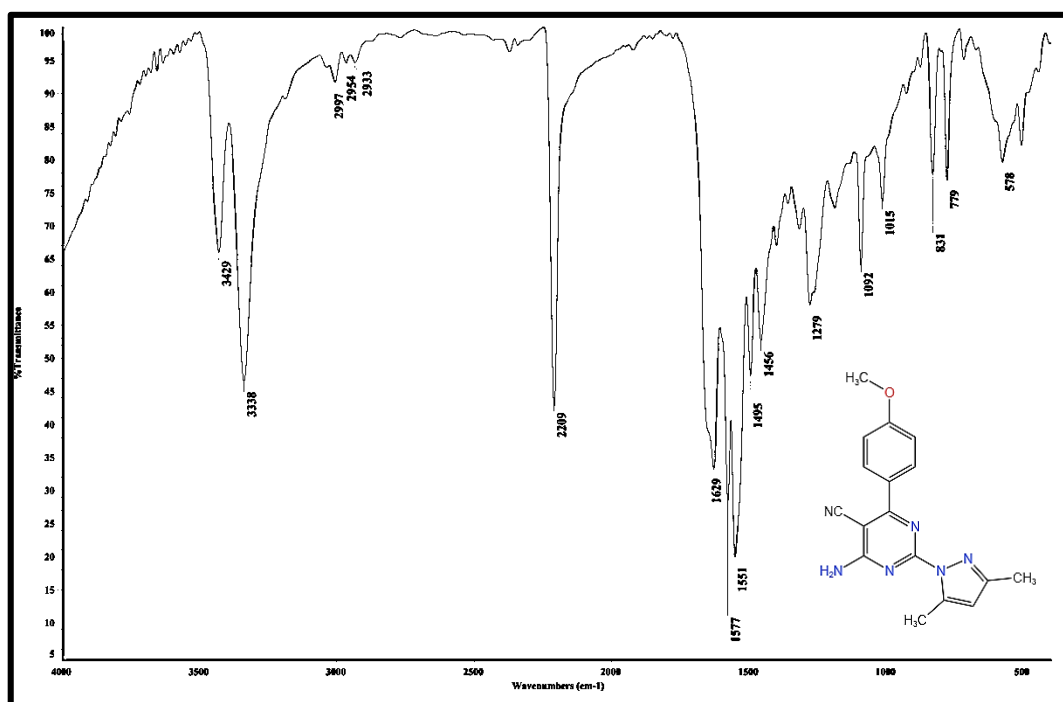


Fig 128: IR spectrum of compound 11c

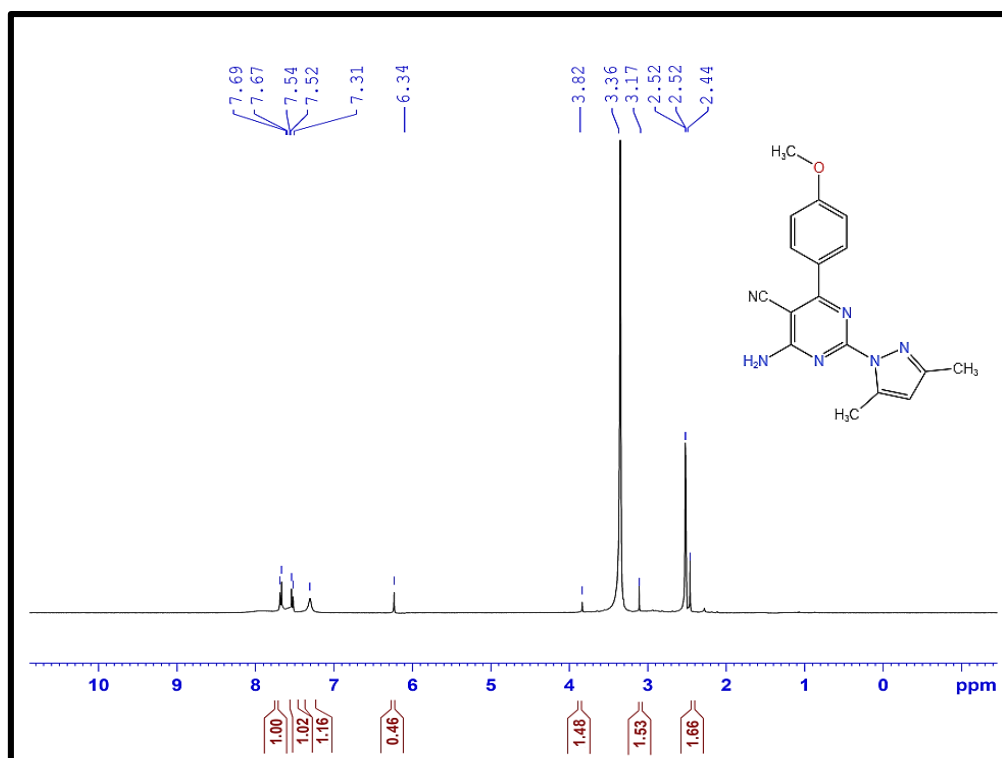


Fig 129: ¹H-NMR spectrum of compound 11c

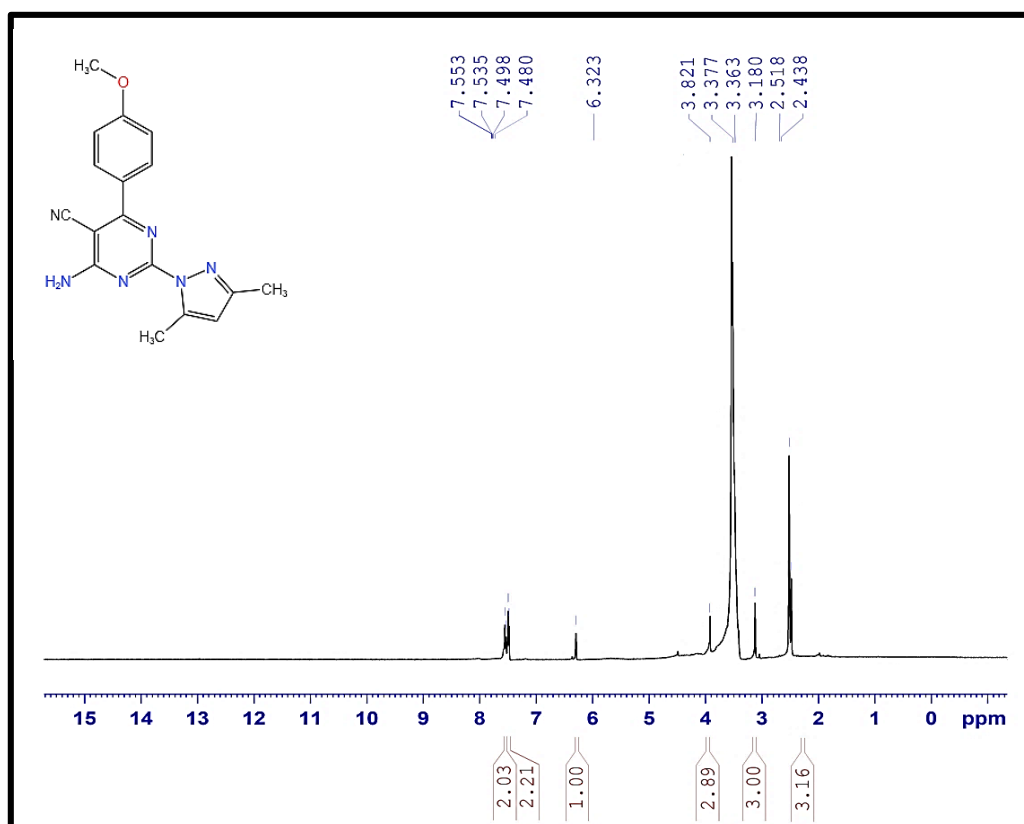


Fig 130: ¹H-NMR spectrum of compound 11c + D₂O

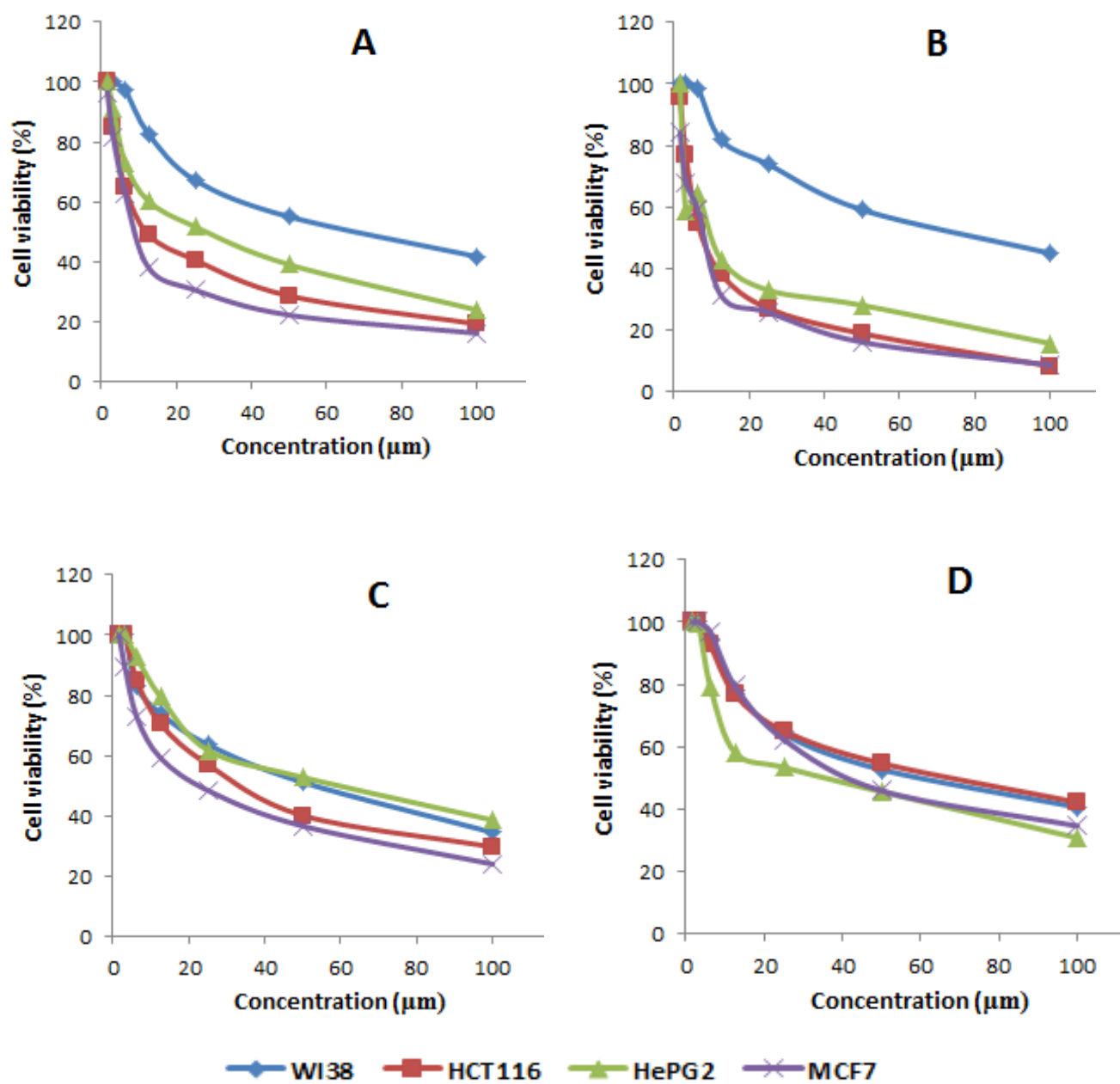


Fig 131: Relative cell viability after treatment with different concentrations of compound 3 where: A= 3a, B=3b, C=3c and D=3d

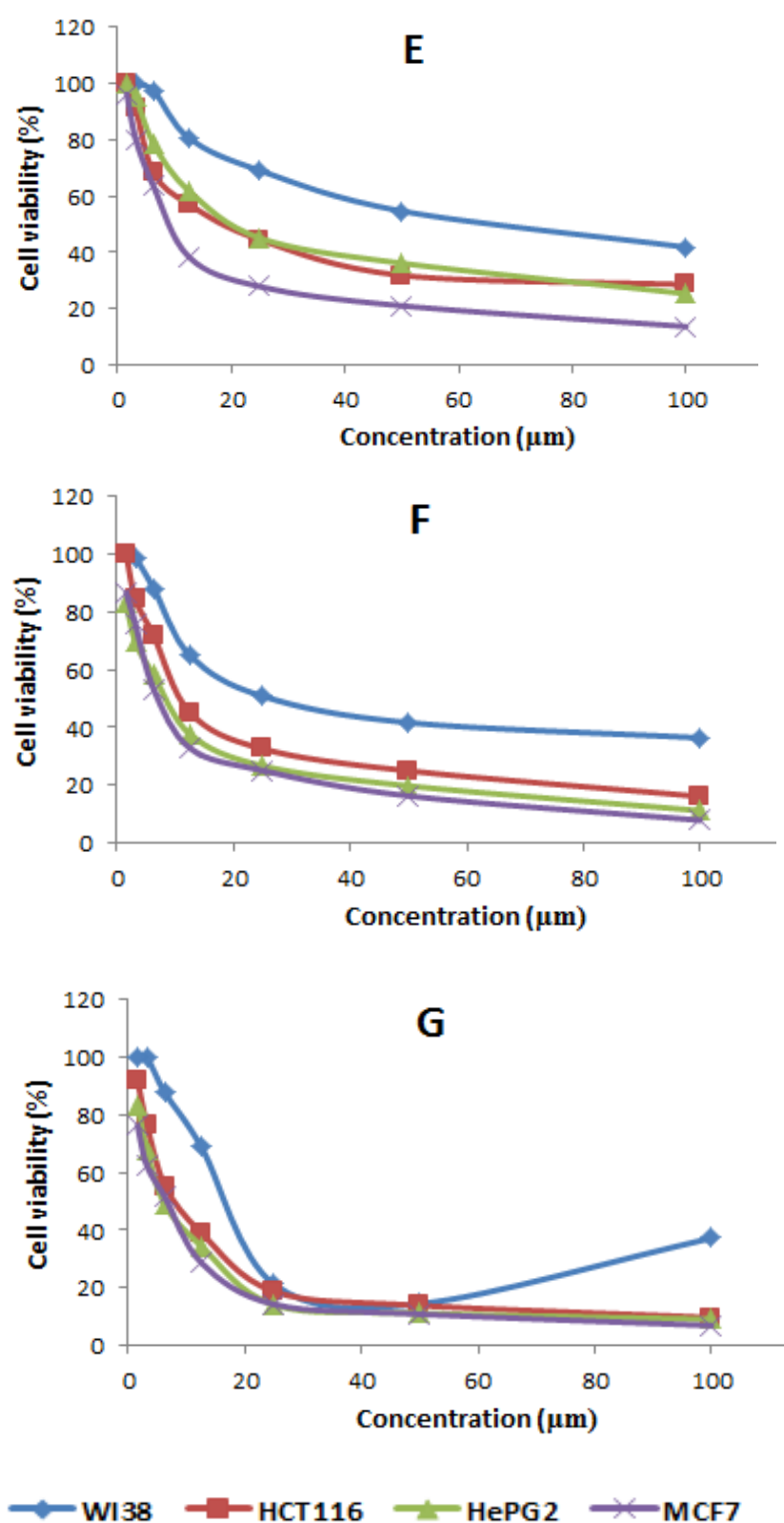


Fig 132: Relative cell viability after treatment with different concentrations of compound 10 where: E= 10a, F=10b and G=10c

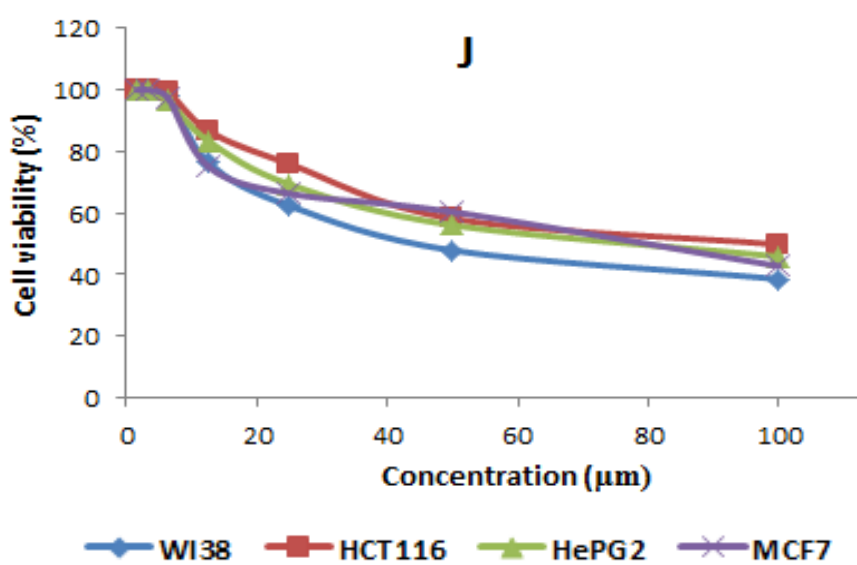
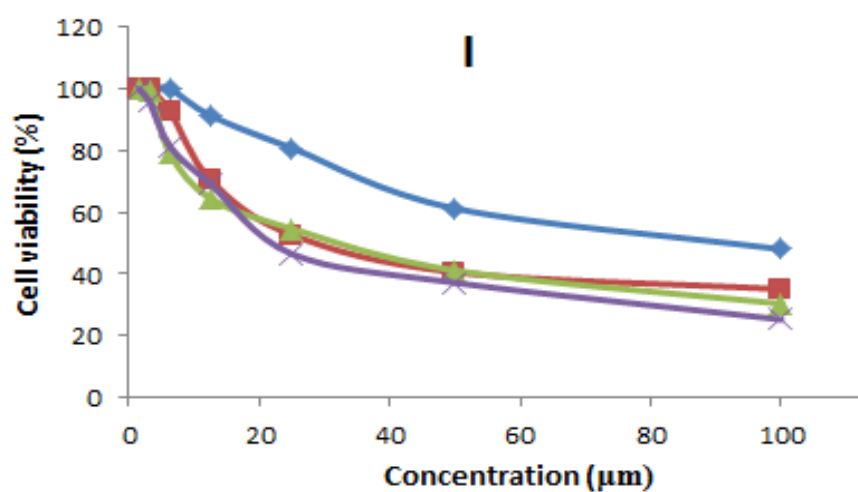
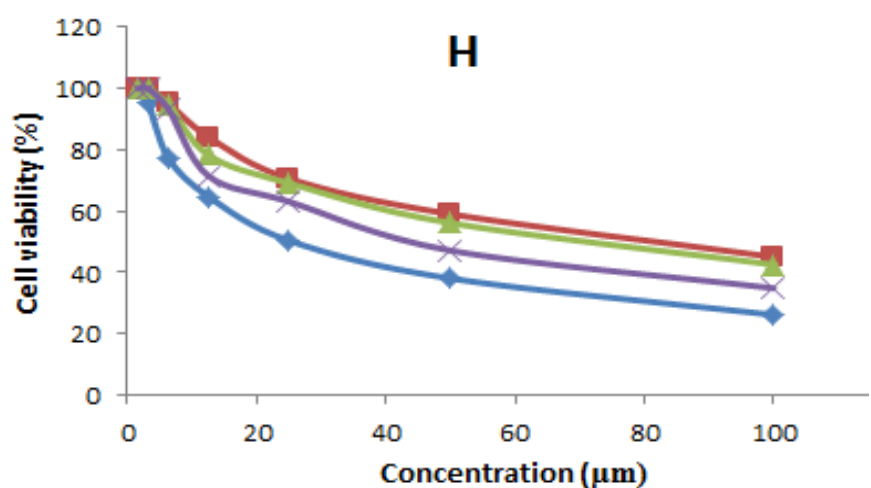


Fig 133: Relative cell viability after treatment with different concentrations of compound 11 where: H= 11a, I=11b and J=1

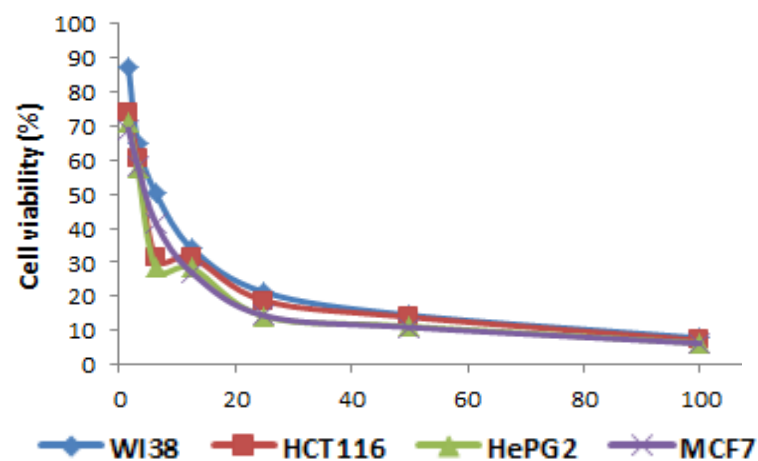


Fig 134: Relative cell viability after treatment with different concentrations of Doxorubicin

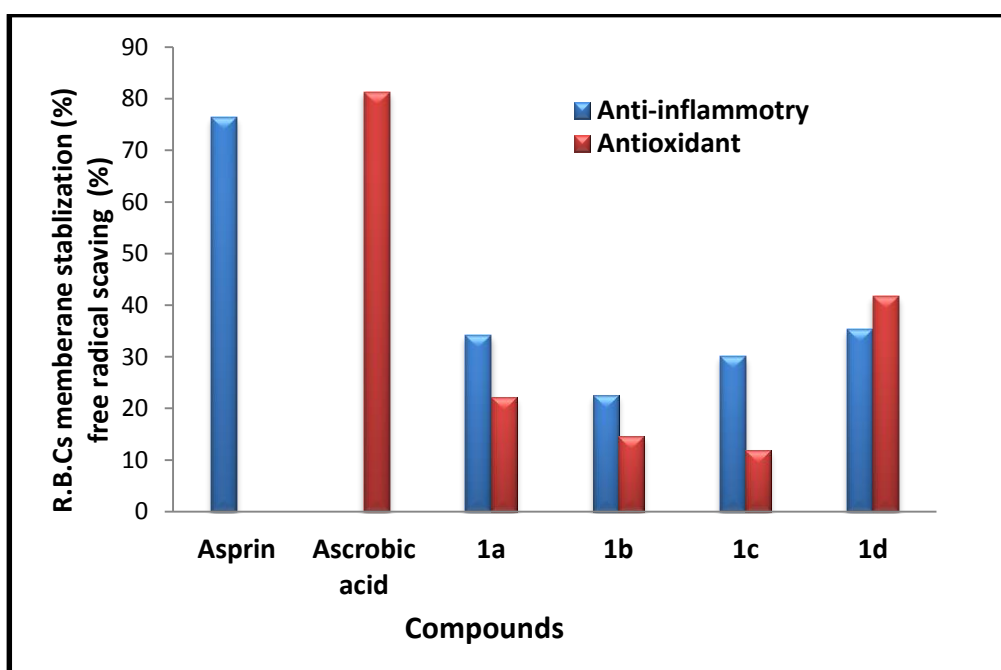


Fig 135: Anti-inflammatory and Anti-oxidant activity of compounds 1a-d

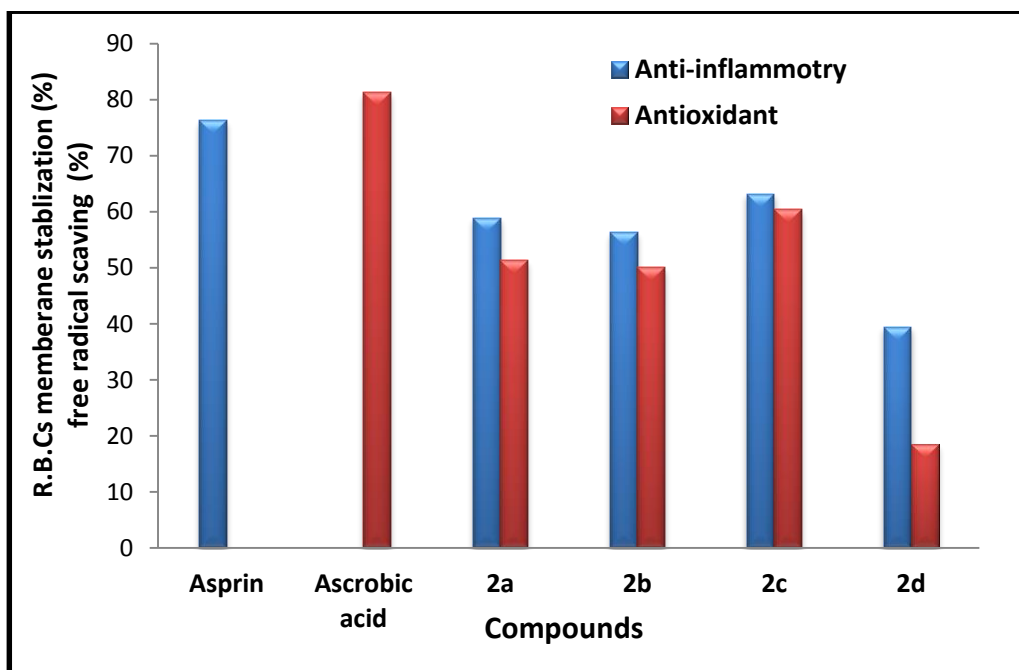


Fig 136: Anti-inflammatory and Anti-oxidant activity of compounds 2a-d

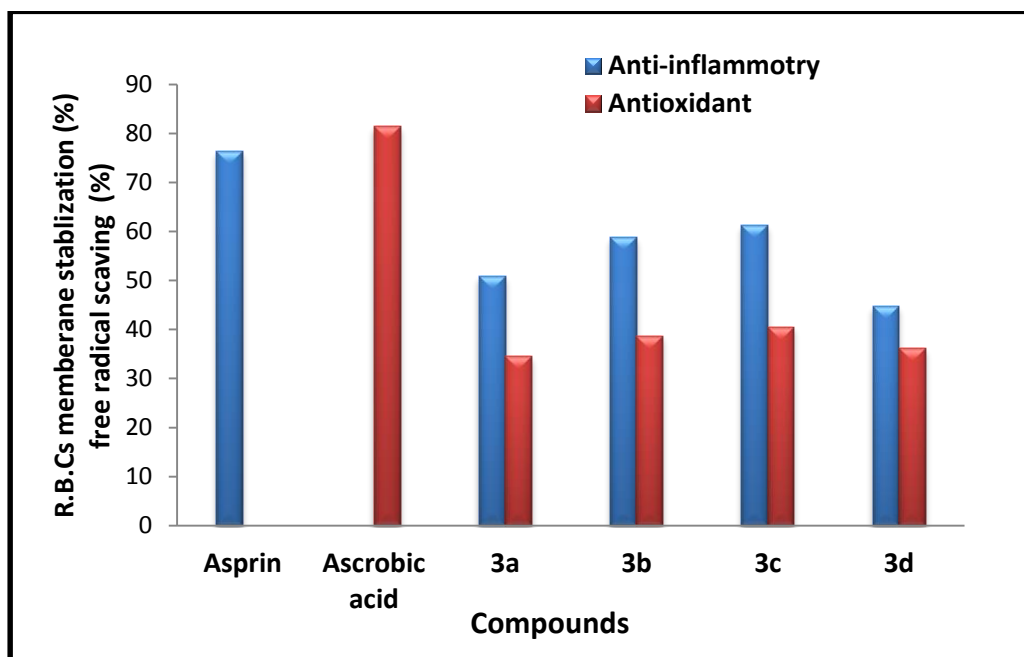


Fig 137: Anti-inflammatory and Anti-oxidant activity of compounds 3a-d

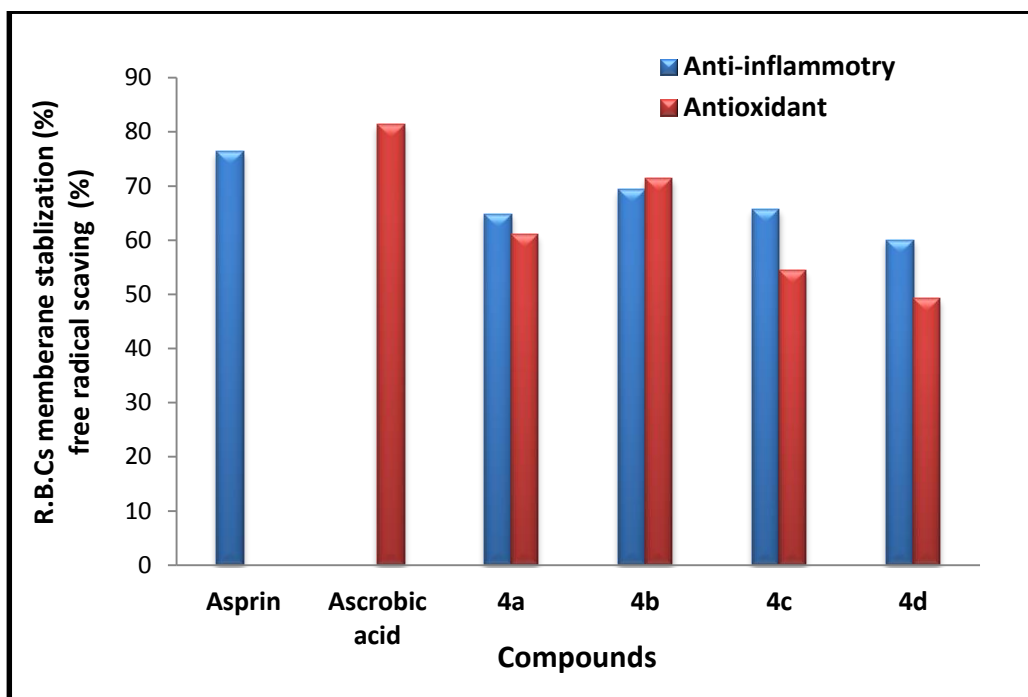


Fig 138: Anti-inflammatory and Anti-oxidant activity of compounds 4a-d

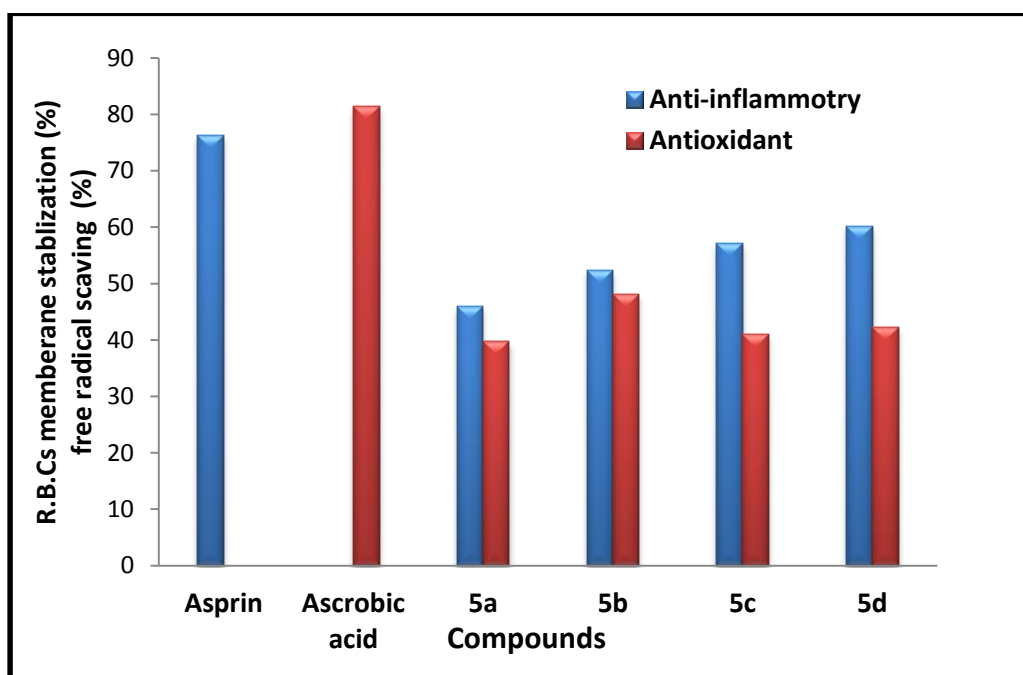


Fig 139: Anti-inflammatory and Anti-oxidant activity of compounds 5a-d

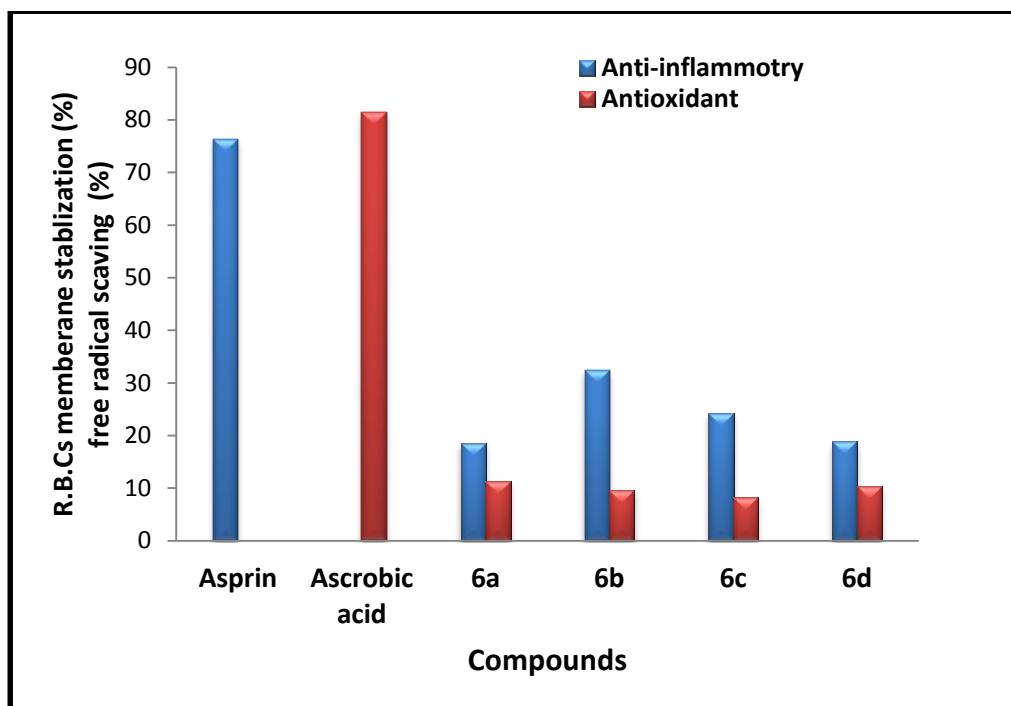


Fig 140: Anti-inflammatory and Anti-oxidant activity of compounds 6a-d

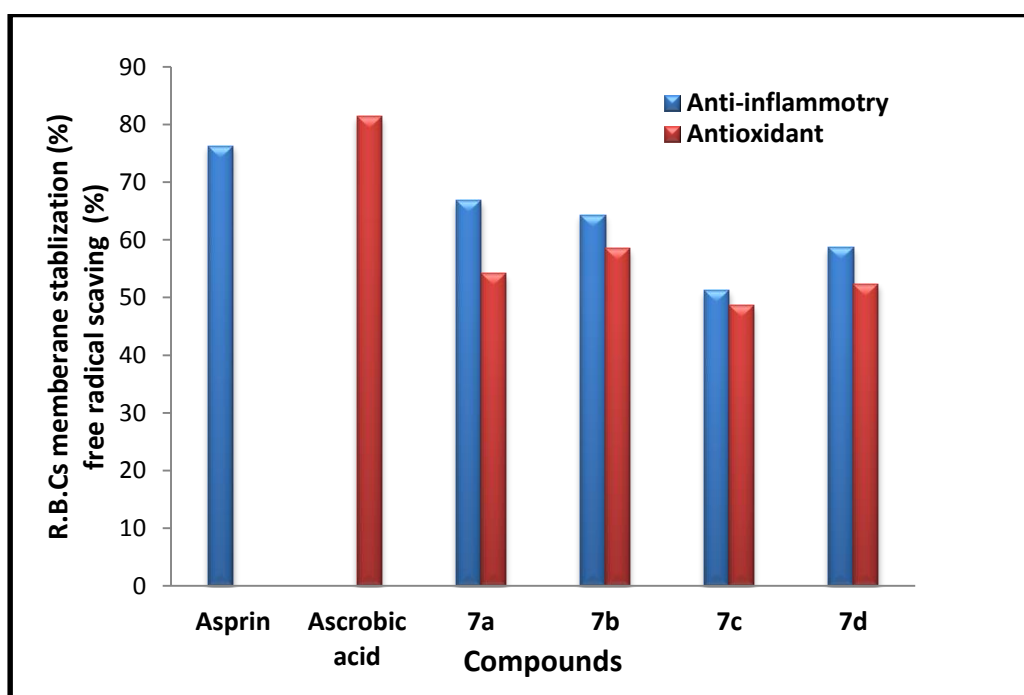


Fig 141: Anti-inflammatory and Anti-oxidant activity of compounds 7a-d

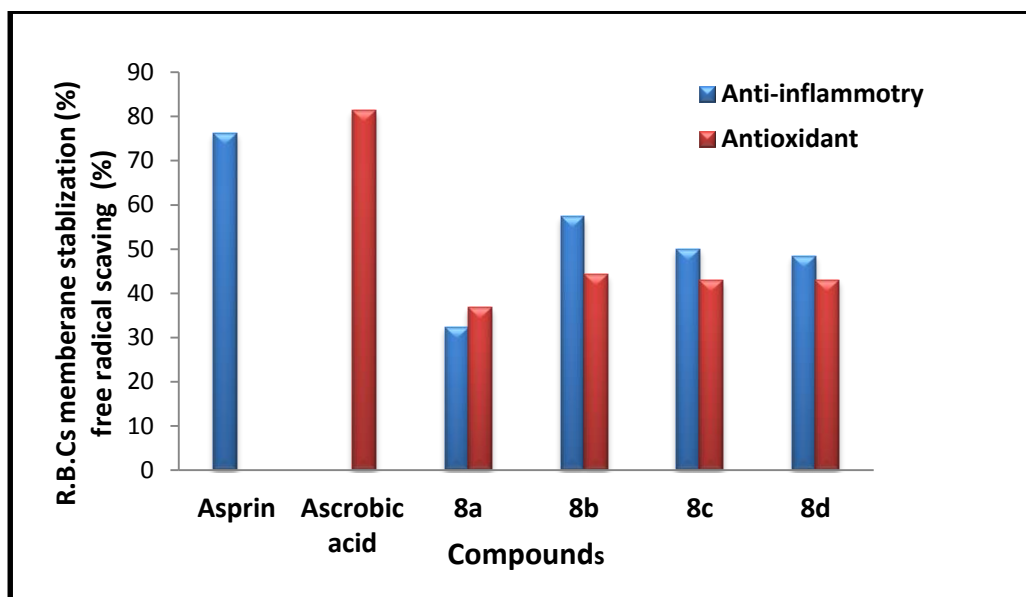


Fig 142: Anti-inflammatory and Anti-oxidant activity of compounds 8a-d

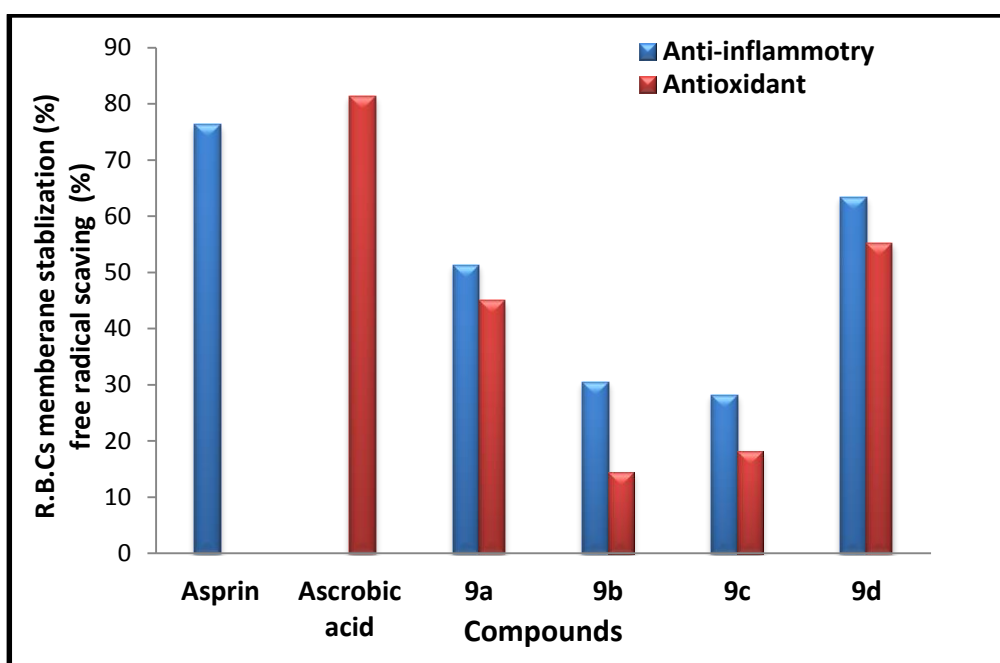


Fig 143: Anti-inflammatory and anti-oxidant activity of compounds 9a-d

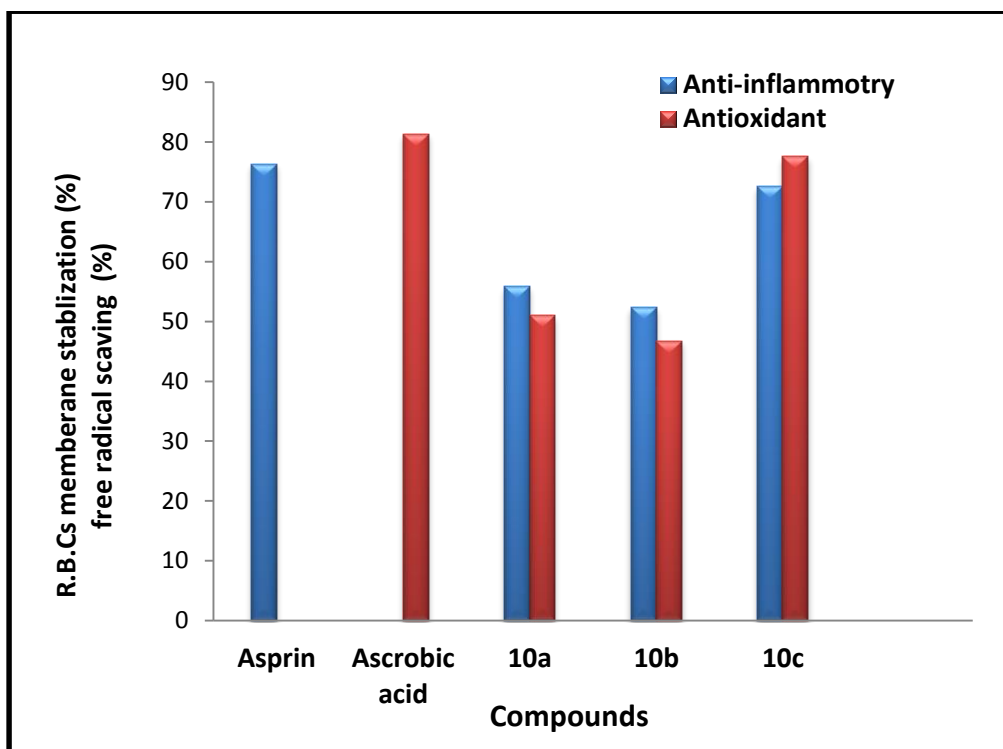


Fig 144: Anti-inflammatory and Anti-oxidant activity of compounds 10a-c

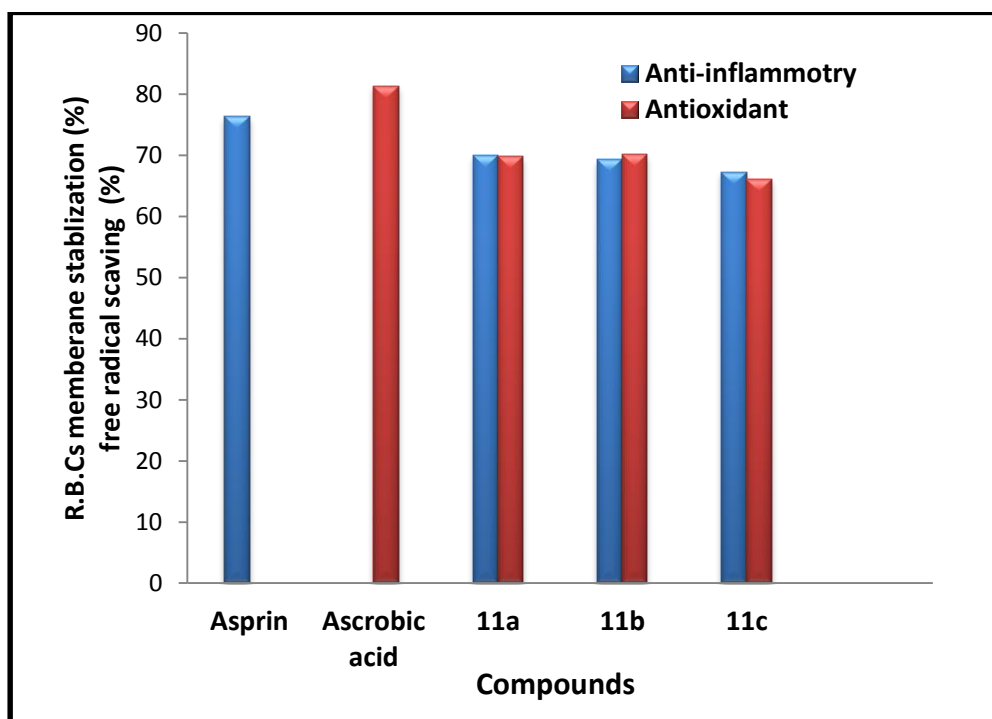


Fig 145: Anti-inflammatory and Anti-oxidant activity of compounds 11