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2-[5-chloro(bromo)-3-hydrazono-2-oxo-2,3-dihydro-1*H*-indolin-1-yl]acetohydrazide

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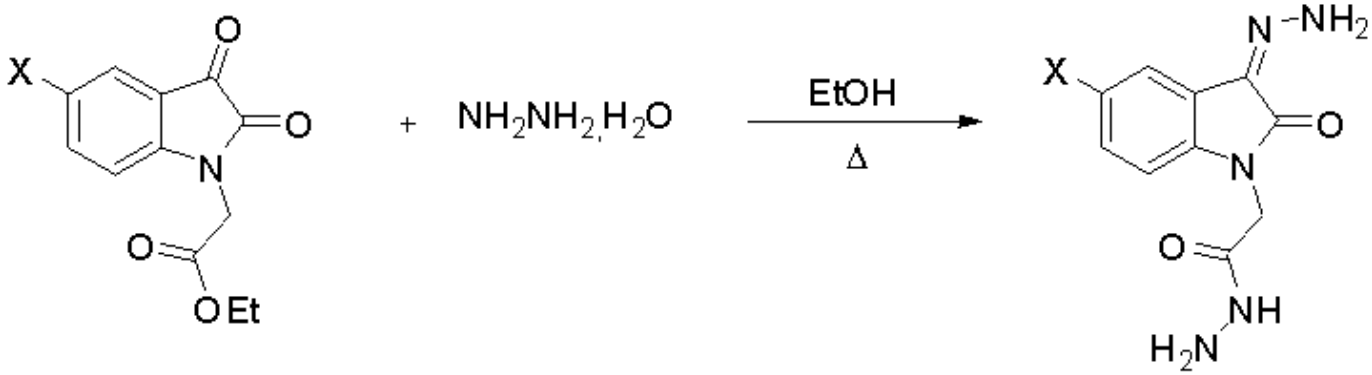
Isatin derivatives exhibit significant biological, medicinal and pharmacological activities, [1,2] such as antituberculous, antihypoxing agent, anticonvulsant, antihyperglycemic; active against *salmonella*, *typhi* and against *vibrio cholerae*. Besides, they are used in treating and preventing pestvirus. [3]
We describe in this work, the synthesis of new indoline derivatives.



1a: X = Cl
1b: X = Br

2a: X = Cl
2b: X = Br

To a solution of **1a-b** (3.7 mmol) in 10 mL of ethanol, was added hydrazine hydrate (7.4 mmol). The mixture was refluxed for 6 h. After cooling the precipate was filtered and recrystallised from ethanol to afford product **2a-b**.

2-[5-chloro-3-hydrazono-2-oxo-2,3-dihydro-1H-indolin-1-yl]acetohydrazide 2a:

Yield: (74%). Melting Point: > 250°C. MS (IE): M^+(m/z) = 267 (76%)/ 269 (25%); 180 (100%). υ (cm^{-1}): 3310, 3285, 3113, 3091, 1675, 1654, 1598, 1532. ^{1}H NMR (300 MHz, $CDCl_3$): 3.52 (s, 2H, NH_2), 4.12 (s, 2H, NH_2); 4.61 (s, 2H, NCH_2); 7.00-7.40 (m, 3H, H_{Ar}); 9.27 (s, 1H, NH). ^{13}C NMR (300 MHz, $CDCl_3$): 41.2 (NCH_2); 111.2, 117.6, 126.9 (CH_{Ar}); 117.8, 124.6, 138.4 (Cq); 159.1 ($C{=}O_{amide}$); 161.4 ($C{=}N_{imine}$); 165.3 ($C{=}O_{hydrazide}$). Elemental analysis: Calculated for $C_{10}H_{10}ClN_5O_2$: C, 44.87%; H, 3.77%; N, 26.16%; Found: C, 44.62%; H, 3.88%; N, 25.96%.

2-[5-bromo-3-hydrazono-2-oxo-2,3-dihydro-1H-indolin-1-yl]acetohydrazide 2b:

Yield: (70%). Melting Point: > 250°C. MS(IE): M^+(m/z) = 311 (39%)/ 313 (37%); 224 (100%). υ (cm^{-1}): 3320, 3279, 3162, 3089, 1687, 1656, 1599, 1533. ^{1}H NMR (300 MHz, $CDCl_3$): 3.34 (s, 2H, NH_2), 4.06 (s, 2H, NH_2); 4.57 (s, 2H, NCH_2); 6.91-7.51 (m, 3H, H_{Ar}); 9.32 (s, 1H, NH). ^{13}C NMR (300 MHz, $CDCl_3$): 40.6 (NCH_2); 111.4, 120.4, 129.6 (CH_{Ar}); 115.0, 124.6, 138.7 (Cq); 159.0 ($C{=}O_{amide}$); 161.2 ($C{=}N_{imine}$); 167.2 ($C{=}O_{hydrazide}$). Elemental analysis: Calculated for $C_{10}H_{10}BrN_5O_2$: C, 38.48%; H, 3.23%; N, 22.44%; Found: C, 38.31%; H, 3.35%; N, 22.56%.

References:

1. Pandeya, S.N.; Sriram, D. *Acta Pharm. Turc.* **1998**, *40*, 33.
2. Sarangapani, M.; Narayan, A.R.; Jayamma, Y.; Reddy, V.M. *Indian Drugs* **1998**, *35*, 336.
3. Pevear, C.D.; Nitz, J.T.; Seipel, M. PCT Int. Appl. WO98 36,752. (Cl.A61K3 1/555)27 Aug 1998, US Appl. 12 Feb. 1997, 803, 675.
4. Joshi, K.C.; Jam, R.; Chand, P.; Garg, S. *J. Indian Chem. Soc.* **1983**, *LX*, 760.