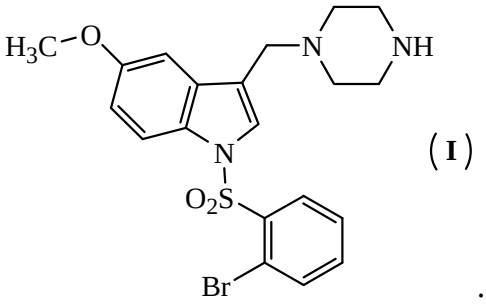
**We claim**

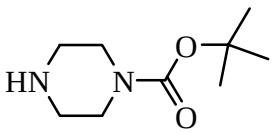
1. A compound, 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-piperazinyl)methyl]-1H-indole having formula (**I**),




(**I**)

2. A process for the preparation of a compound of formula (**I**) as claimed in claim 1, which comprises:

**Step (i):** reacting N-Boc piperazine of formula **1**



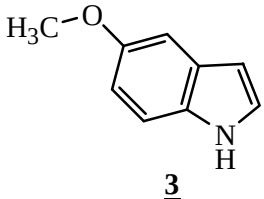

**1**

in presence of acetic acid and aqueous formaldehyde of formula **2** to obtain Mannich adduct;

HCHO

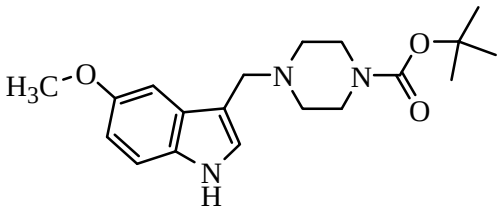
**2**

**Step (ii):** reacting the Mannich adduct with 5-methoxyindole of formula **3**




**3**

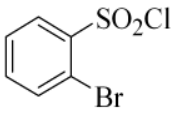
in presence of methanol to obtain 3-[(1-t-Butyloxycarbonyl piperazin-4-yl)methyl]-5-methoxy-1H-indole of formula **4**;



**4**

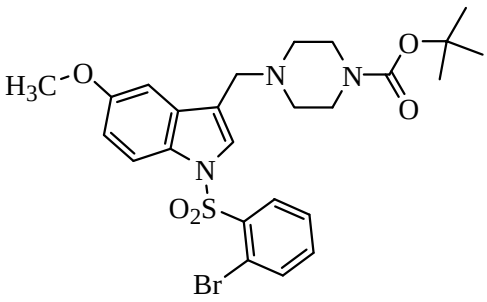
**Step (iii):** purification of 3-[(1-t-Butyloxycarbonyl piperazin-4-yl)methyl]-5-methoxy-1H-indole of formula **4** by using n-hexane;

**Step (iv):** reacting the above obtained 3-[(1-t-Butyloxycarbonyl piperazin-4-yl)methyl]-5-methoxy-1H-indole of formula **4** with 2-bromophenylsulfonyl chloride of formula **5**;



**5**

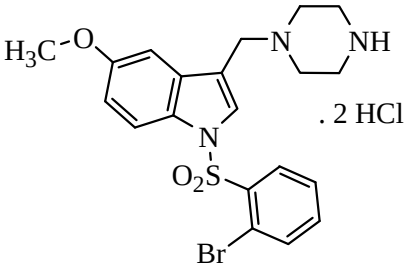
in tetrahydrofuran in presence of potassium hydroxide to obtain 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-t-butyloxycarbonyl piperazin-4-yl)methyl]-1H-indole of formula **6**;



**6**

**Step (v):** purification of 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-t-butyloxycarbonyl piperazin-4-yl)methyl]-1H-indole of formula **6** by using isopropanol and methanol;

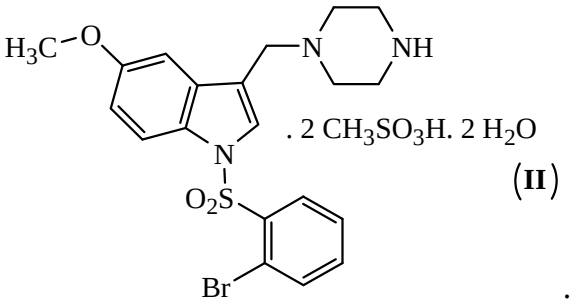
**Step (vi):** converting the above obtained 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-t-butyloxycarbonyl piperazin-4-yl)methyl]-1H-indole of formula 6 in presence of absolute ethanol and aqueous hydrochloric acid to obtain 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-piperazinyl)methyl]-1H-indole dihydrochloride of formula **8**;




**8**

**Step (vii):** the above obtained 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(piperazin-1-yl)methyl]-1H-indole dihydrochloride of formula **8** is dissolved in water and basified to pH 10.5 to 11 by adding 40 % (w/w) lye solution to obtain 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-piperazinyl)methyl]-1H-indole of formula (**I**).

3. A compound of the general formula (**II**),

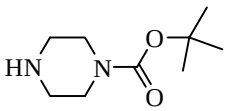



(**II**)

.

4. A process for the preparation of a compound of formula (**II**) as claimed in claim 3, which comprises:

**Step (i):** reacting N-Boc piperazine of formula **1**



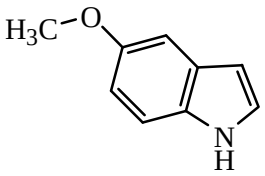

**1**

in presence of acetic acid and aqueous formaldehyde of formula **2** to obtain Mannich adduct;

HCHO

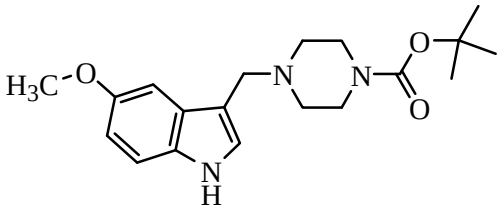
**2**

**Step (ii):** reacting the Mannich adduct with 5-methoxyindole of formula **3**



**3**

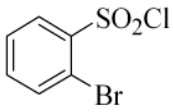
in presence of methanol to obtain 3-[(1-t-Butyloxycarbonyl piperazin-4-yl)methyl]-5-methoxy-1H-indole of formula **4**;



**4**

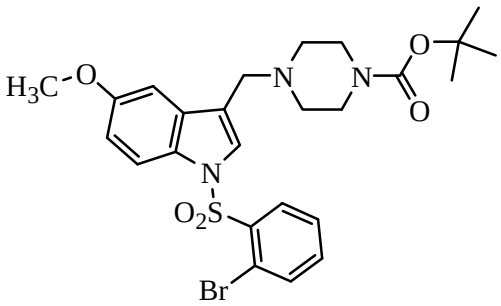
**Step (iii):** purification of 3-[(1-t-Butyloxycarbonyl piperazin-4-yl)methyl]-5-methoxy-1H-indole of formula **4** by using n-hexane;

**Step (iv):** reacting the above obtained 3-[(1-t-Butyloxycarbonyl piperazin-4-yl)methyl]-5-methoxy-1H-indole of formula **4** with 2-bromophenylsulfonyl chloride of formula **5**;



**5**

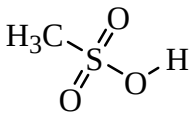
in tetrahydrofuran in presence of potassium hydroxide to obtain 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-t-butyloxycarbonyl piperazin-4-yl)methyl]-1H-indole of formula **6**;



**6**

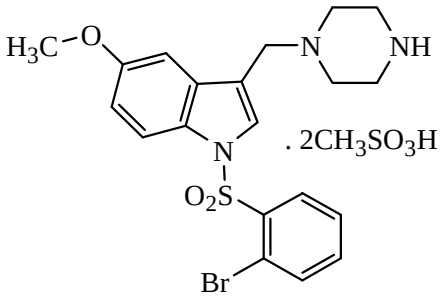
**Step (v):** purification of 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-t-butyloxycarbonyl piperazin-4-yl)methyl]-1H-indole of formula **6** by using isopropanol and methanol;

**Step (vi):** converting the above obtained 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-t-butyloxycarbonyl piperazin-4-yl)methyl]-1H-indole of formula **6** in presence of acetone and methanesulfonic acid of formula **7**



**7**

to obtain 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-piperazinyl)methyl]-1H-indole dimesylate of formula **9**;



**9**

**Step (vii):** the above obtained 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-piperazinyl)methyl]-1H-indole dimesylate of formula **9** is dissolved in water and acetone by heating to 55-60 °C to obtain 1-[(2-Bromophenyl)sulfonyl]-5-methoxy-3-[(1-piperazinyl)methyl]-1H-indole dimesylate dihydrate of formula (**II**).

5. A pharmaceutical composition comprising a compound according to claim 1 and pharmaceutically acceptable excipients.

6. The pharmaceutical composition according to claim 5, for use in the treatment of Alzheimer's disease, Attention deficient hyperactivity, Parkinson's disease and Schizophrenia.

7. A compound according to claim 1 or claim 3, for use in the treatment of diseases related to 5-$HT_6$ receptor antagonists.

8. The compound according to claim 7, wherein the diseases related to 5-$HT_6$ receptor antagonists are selected from Alzheimer's disease, Attention deficient hyperactivity, Parkinson’s disease and Schizophrenia.

9. A pharmaceutical composition comprising a compound according to claim 3 and pharmaceutically acceptable excipients.

10. The pharmaceutical composition according to claim 9, for use in the treatment of Alzheimer's disease, Attention deficient hyperactivity, Parkinson’s disease and Schizophrenia.

11. A compound according to claim 1 or claim 3, for use in the treatment of Alzheimer's disease, Attention deficient hyperactivity, Parkinson’s disease and Schizophrenia.

12. Use of a compound of formula (**I**) as claimed in claim 1, in the manufacture of a medicament for treatment of a disorder of central nervous system related to or affected by the 5-$HT_6$ receptors.

13. Use of a compound of formula (**II**) as claimed in claim 3, in the manufacture of a medicament for treatment of a disorder of central nervous system related to or affected by the 5-$HT_6$ receptors.