

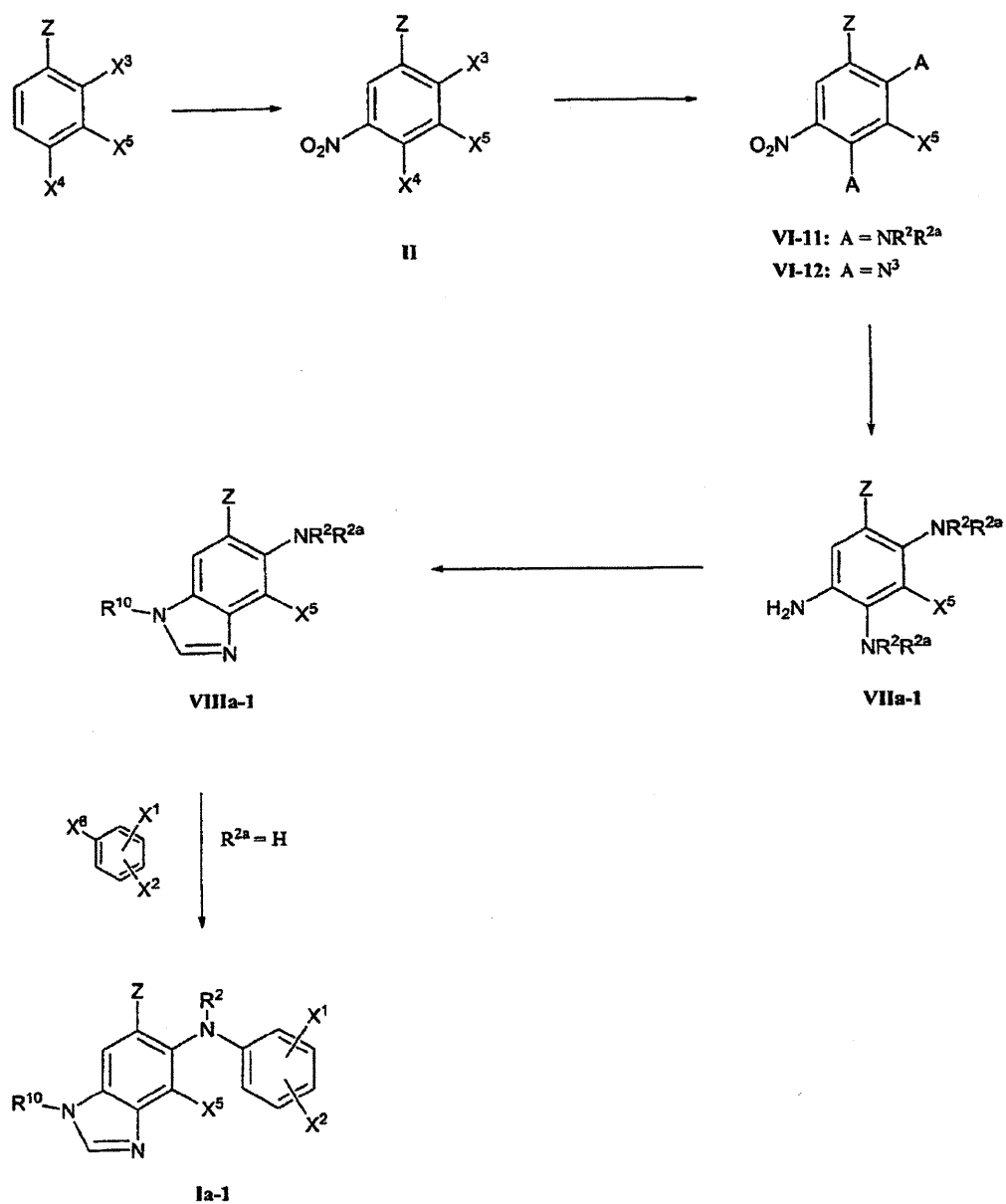


FIG. 1

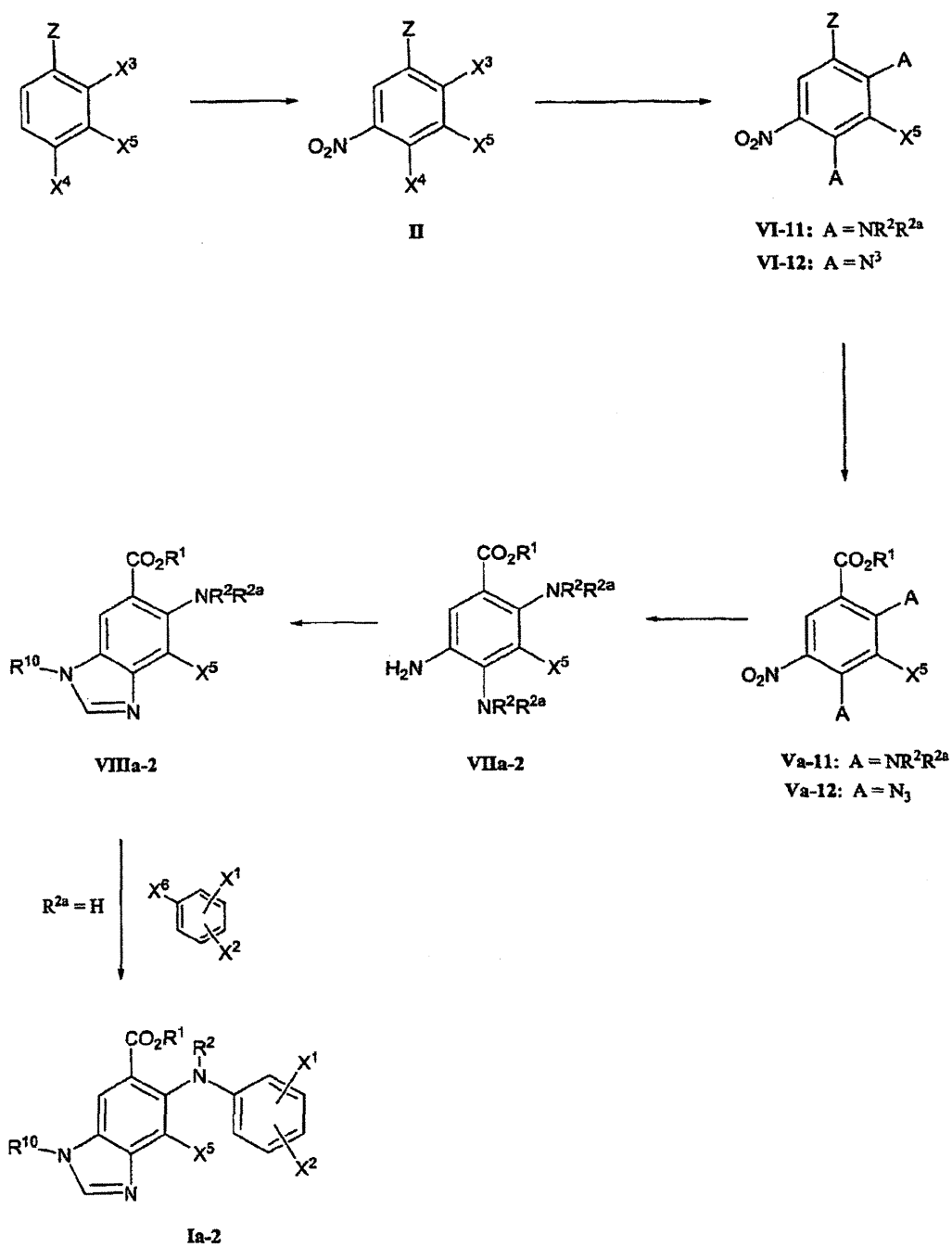


FIG. 2

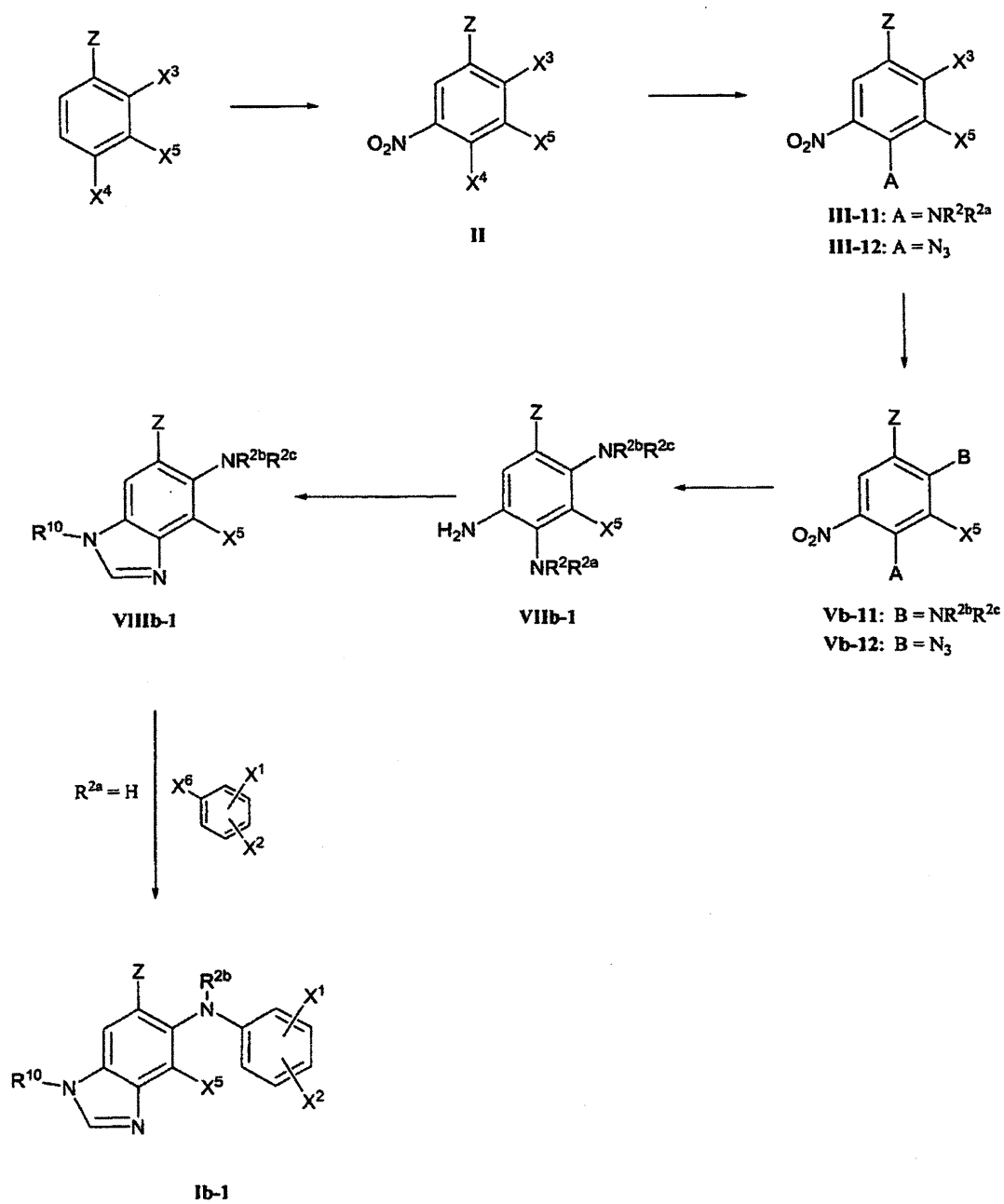


FIG. 3

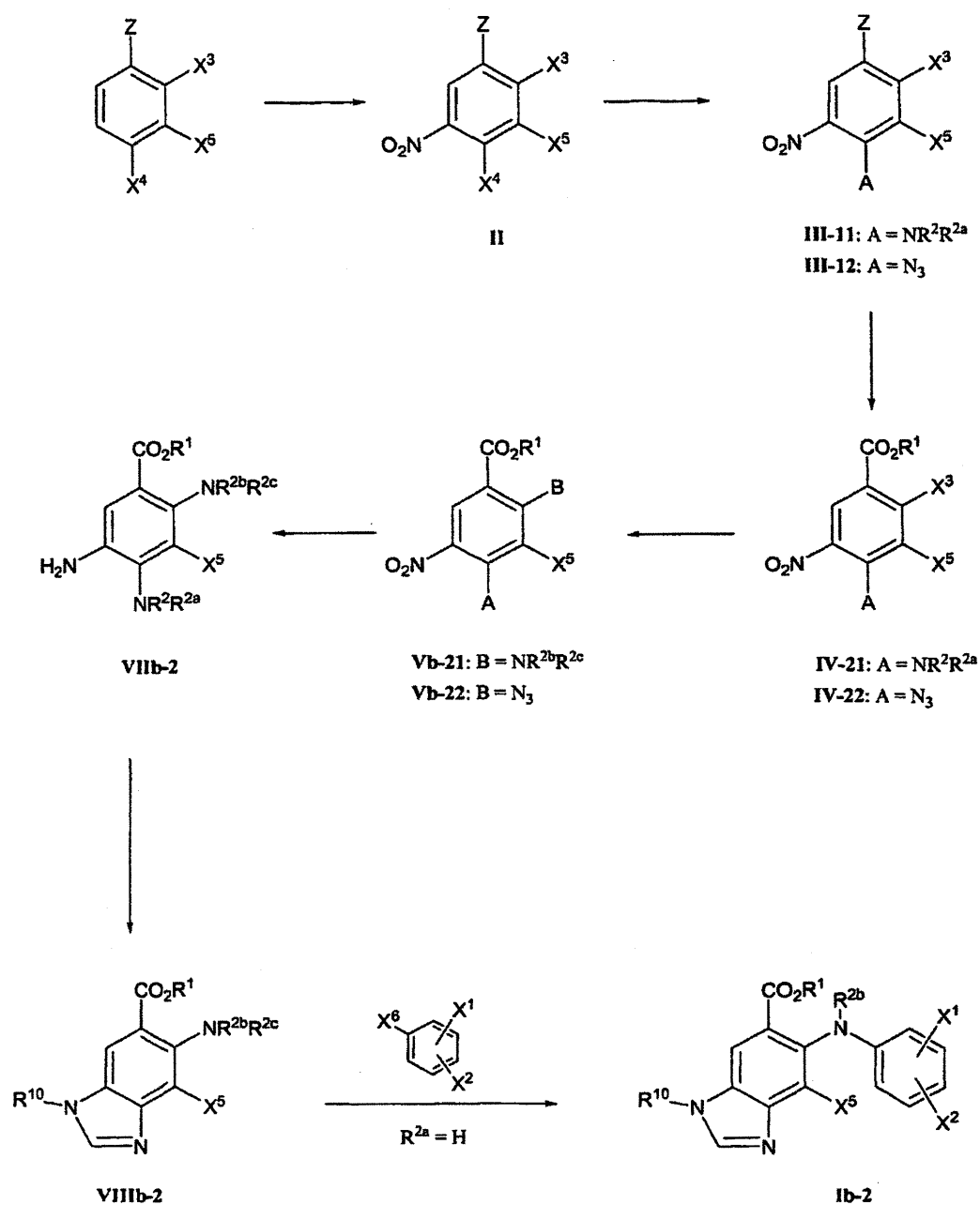
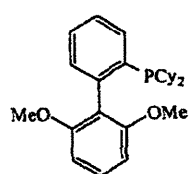
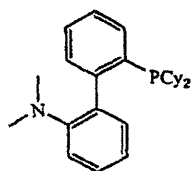


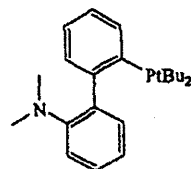
FIG. 4



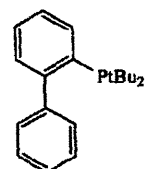
S Phos



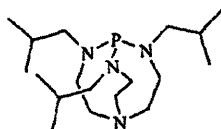
Cycloph_B



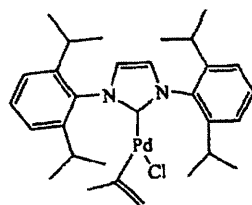
'B_A_B



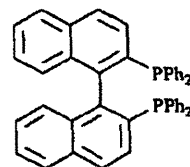
'But_B



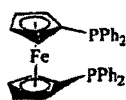
VerK B



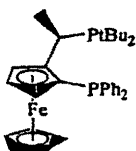
Carbene



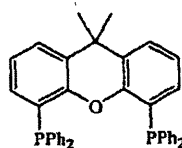
Rac-BINAP



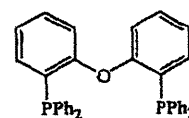
DPPF



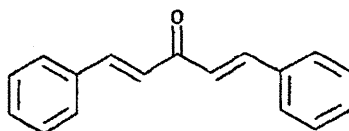
FC_B



XANTPHOS



DPE-PHOS



dba
(dibenzylideneacetone)

Fig. 5

Method A

$R^2, R^{2a} = H$

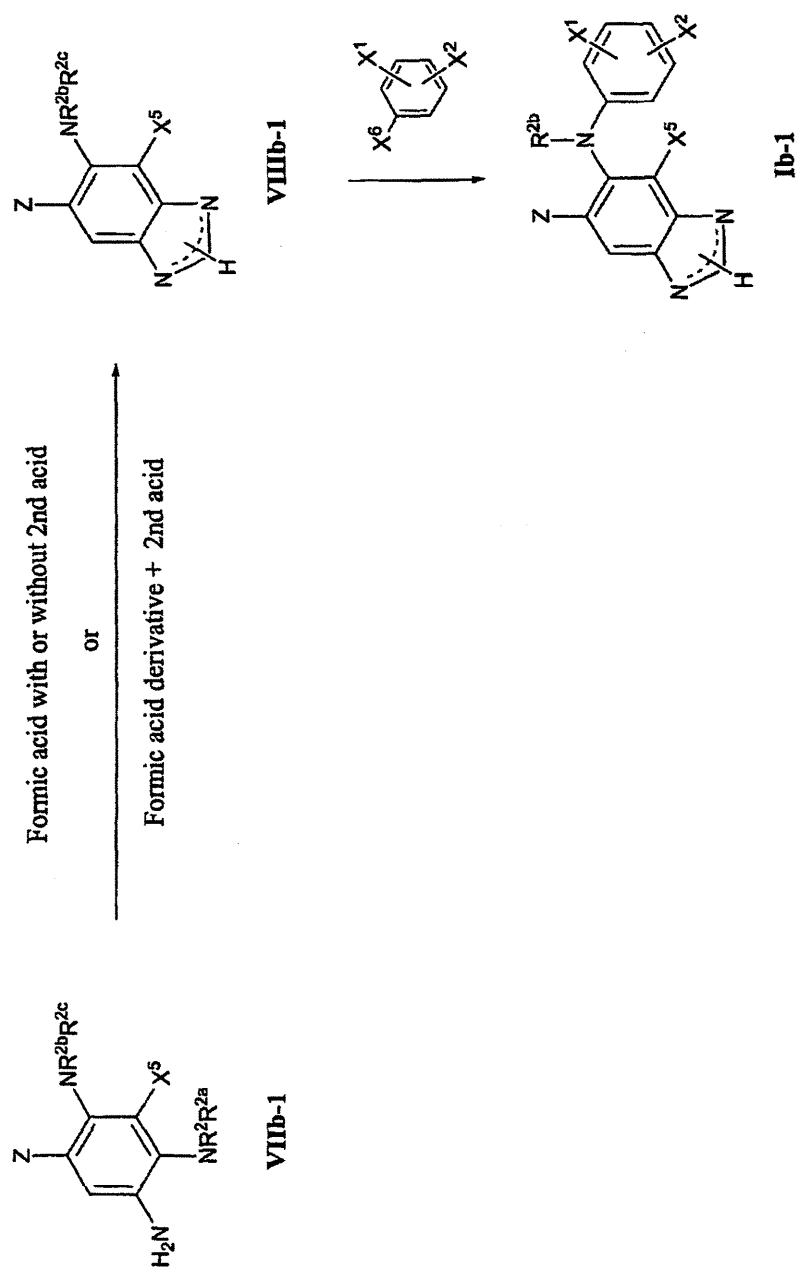


FIG. 6

Method B

$R^2 \neq H$

$R^{2a} = H$

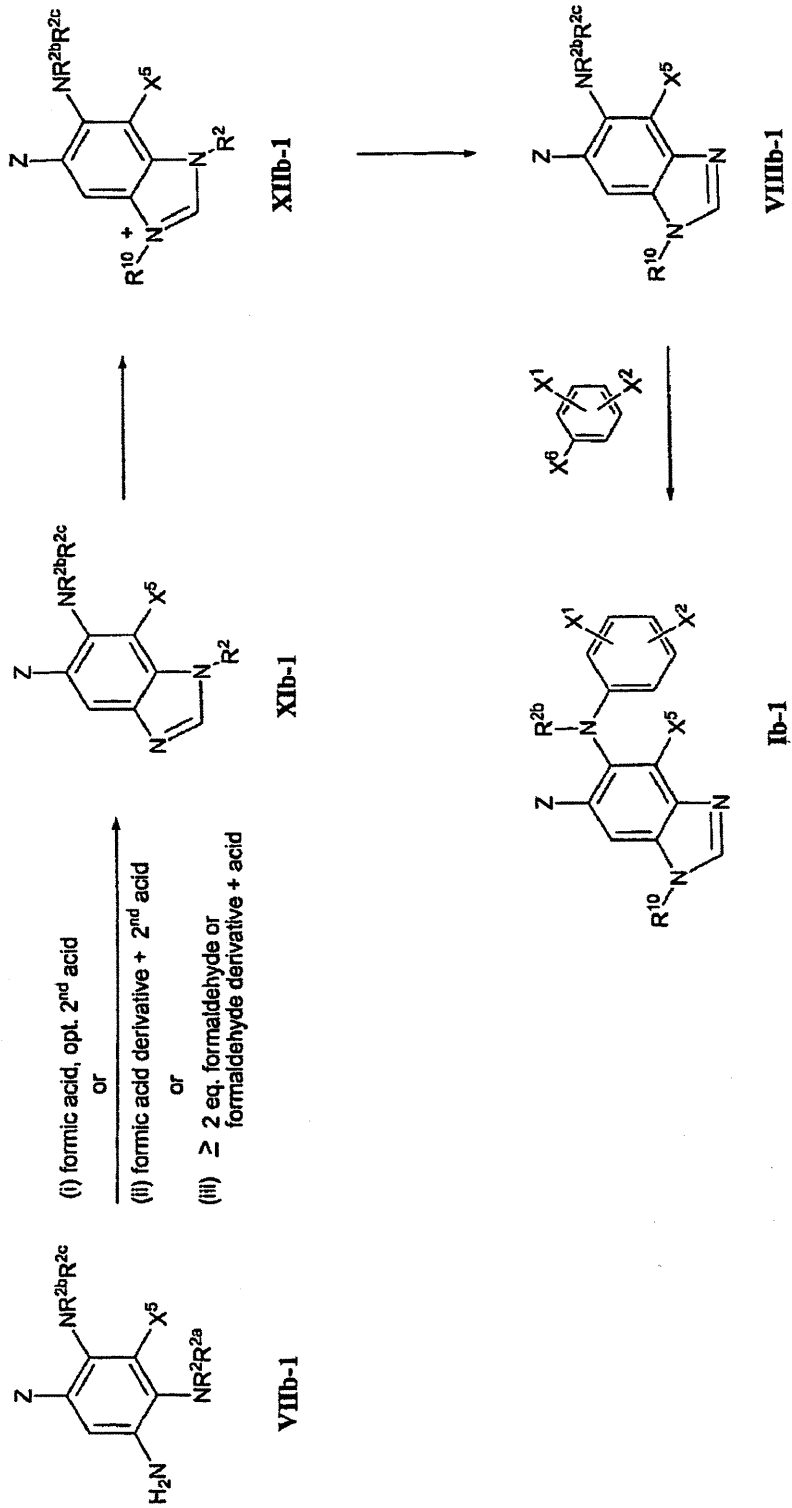


FIG. 7

Method C

$R^2, R^{2a} = H$

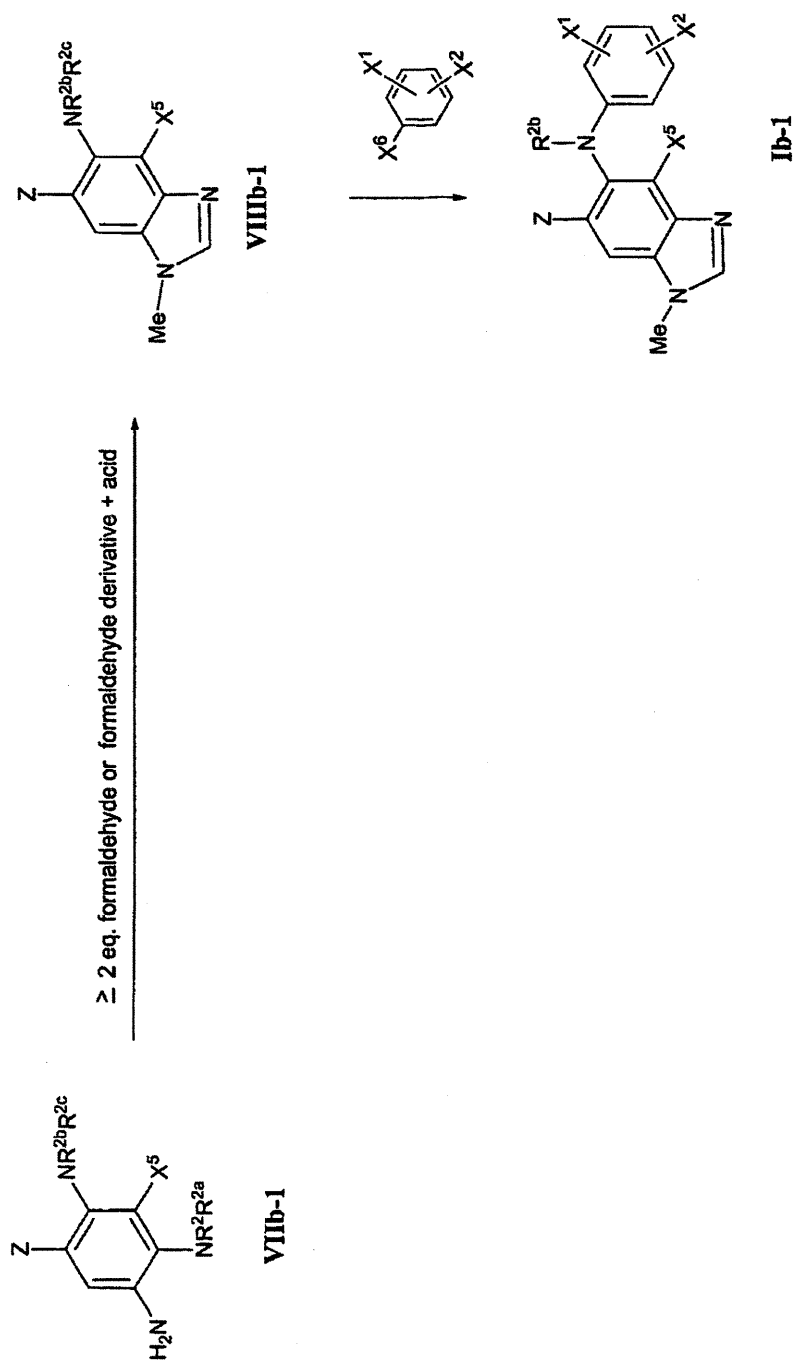


FIG. 8

Method D

$R^2, R^{2a} = H$

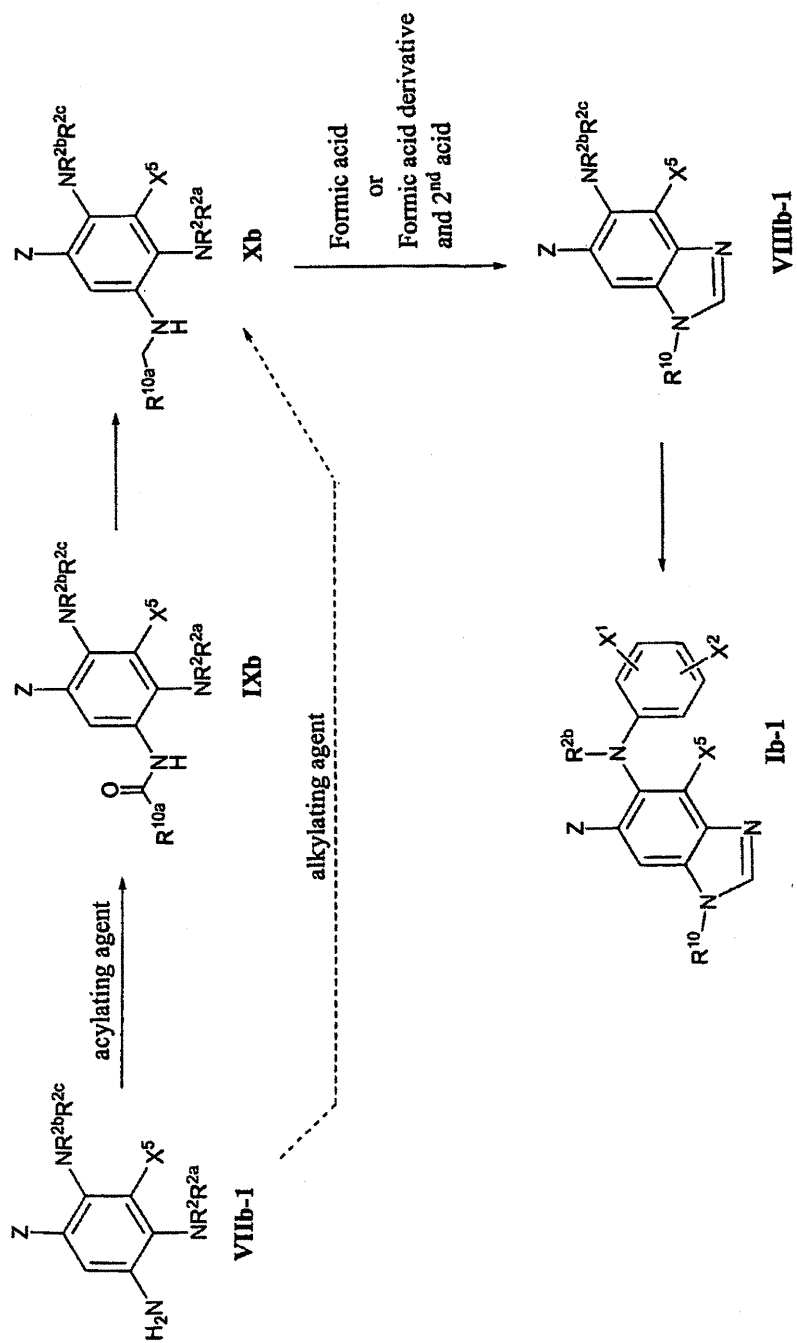


FIG. 9

Method E

$R^2 \neq H$

$R^{2a} = H$

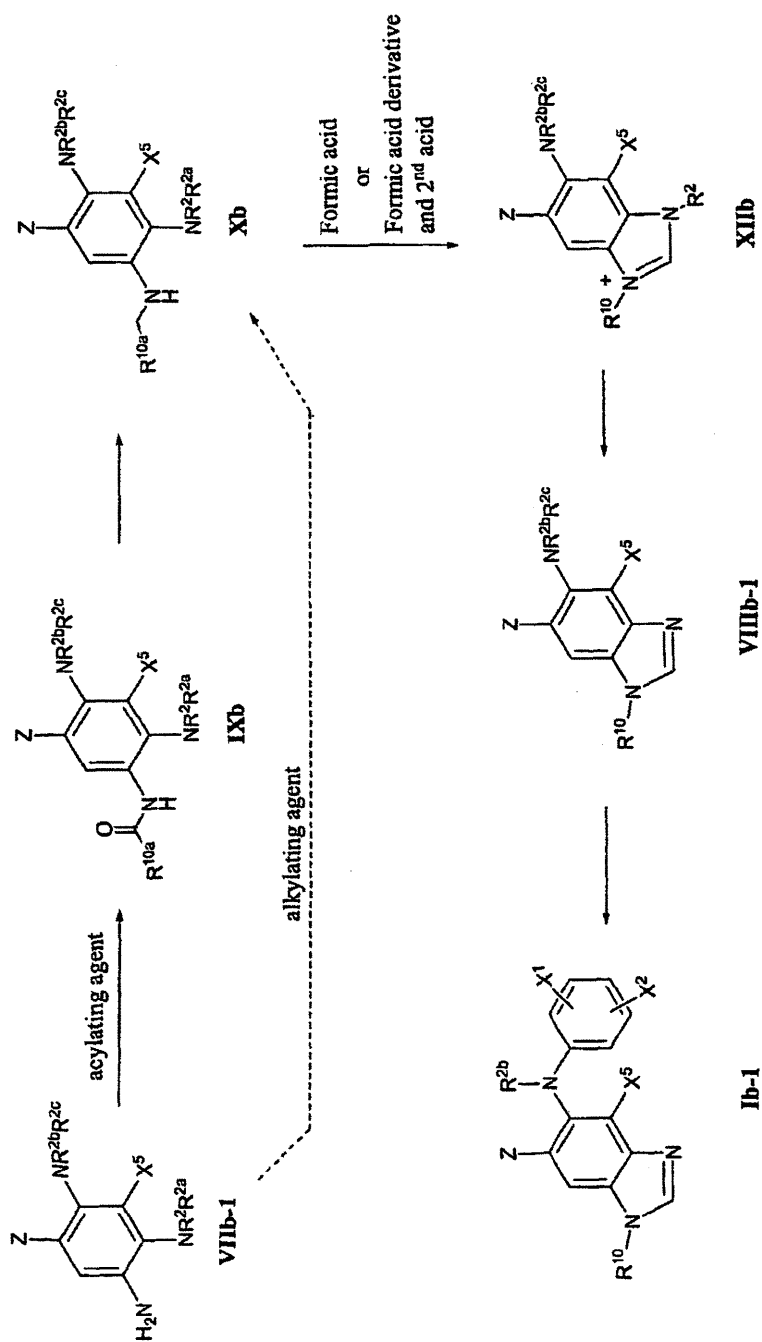


FIG. 10