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Short Communication

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2-D QSAR Analysis of Benzofuran Biphenyl/Naphthalenes as Potent Protein Tyrosine Phosphatase-1B Inhibitors

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***SUMMARY*. Insulin resistance is associated with a defect in protein tyrosine phosphorylation in the insulin signal transduction cascade. PTPase enzyme dephosphorylates the active form of insulin receptor and thus attenuates its tyrosine kinase activity, therefore the need of a potent PTPase inhibitor is the reason for the present Quantitative Structure-Activity relationship (QSAR) was performed. QSAR has been established on a series of compounds of novel benzofuran biphenyl/naphthalene's analogs using SYSTAT (Version 7.0) software, for their protein tyrosine phosphatase (PTPase-1B) inhibitor activity, in order to understand the essential structural requirement for binding with the receptor. Among several 2D QSAR models, one for a series was selected on the basis of high correlation coefficient, least standard deviation, & high value of significance for maximum no. of subject was considered. The interpreted data signify the essentiality of hydrophobic character at X in the designing of the new PTPase -1B inhibitors of naphthalene analogs but not in biphenyl derivatives as shown in earlier result.**

KEY WORDS: Benzofuran biphenyl/naphthalenes, PTPase-1B Inhibitor, QSAR,

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