

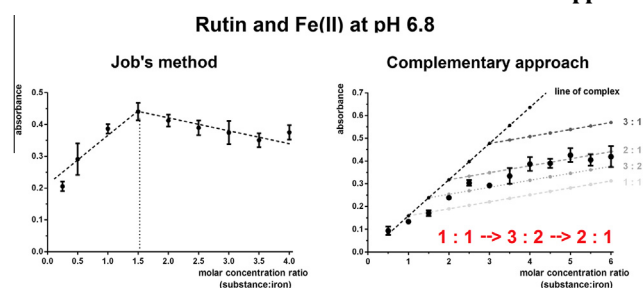
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Regular Articles

Mathematical calculations of iron complex stoichiometry by direct UV-Vis spectrophotometry

Tomáš Filipický, Michal Říha, Radomír Hrdina, Kateřina Vávrová and Přemysl Mladěnka*

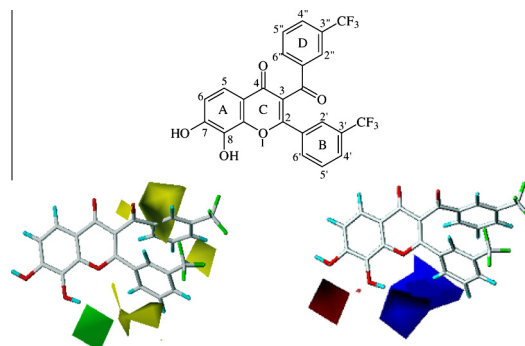
pp 1–8



Ligand-based CoMFA and CoMSIA studies on chromone derivatives as radical scavengers

Narumol Phosrithong and Jiraporn Ungwitayatorn*

pp 9–15

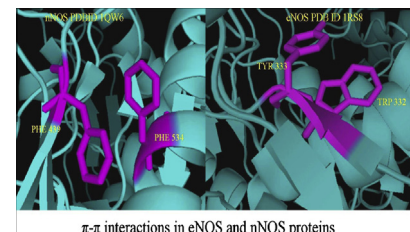


Investigations on the role of π - π interactions and π - π networks in eNOS and nNOS proteins

pp 16–23

Sivasakthi Vaideeswaran and Sudha Ramaiah*


π - π Interactions of aromatic amino acids in nNOS and eNOS proteins were analyzed. The interactions between residues Phe 439, Phe 534 in nNOS PDB ID 1QW6 and Tyr 333, Trp 332 in eNOS PDB ID 1RS8 are displayed.




π - π interactions in eNOS and nNOS proteins

pp 24-32

Neotenyldupimide or Neotrichosilyldupimide inhibited soybean lipoxygenase-1




Neotenyldupimide, $K_i = 6.2 \mu\text{M}$




Neotrichosilyldupimide, $K_i = 2.7 \mu\text{M}$

Ne-trichosilyldupimide or Ne-trichosilyldupimide sensitized soybean lipoxygenase-1




Ne-trichosilyldupimide, $K_i = 27 \mu\text{M}$, $K_{is} = 0.12 \text{ min}^{-1}$



Ne-trichosilyldupimide, $K_i = 24 \mu\text{M}$, $K_{is} = 0.35 \text{ min}^{-1}$

pp 33–39



Compound **511c**: ethyl 1-(3-(1H-imidazol-1-yl)propyl)-2-(4-nitrophenyl)-1H-benzod[1,2-b:4,5-b']diazole-5-carboxylate

$IC_{50} = 5.12 \mu M$ for AChE and
 $IC_{50} = 8.62 \mu M$ for BChE

pp 40–48

Sulfhydryl-assisted cleavage of mutual prodrugs

$\text{CO}_2 + \left[\text{S} \right] \text{[M4]} + \left[\text{O} \text{C} \text{S} \right] \text{[M3]}$

$\text{D}^1\text{-X} + \text{R}^{\text{S}}\text{-S} + \text{D}^2$

Mutual Prodrug
(A general formula)
 $\text{pH} \sim 7.4$, RSH

$\text{RSSR} + \text{CO}_2 + \left[\text{S} \right] \text{[M4]} + \left[\text{O} \text{C} \text{S} \right] \text{[M5]}$

$\text{D}^1\text{-XH}$

Released Drug 1

Released Drug 2

Wherein,
 $\text{D}^1\text{-XH} = \text{Drug 1}$, where, $\text{X} = \text{O}$, NR ($\text{R} = \text{H}$ or a bond linked to the D^1 residue), CONH , NCONH ; $\text{D}^2\text{-CO}_2\text{H} =$ Carboxyl-containing Drug 2; $\text{RSH} = \text{Cysteine or Glutathione reduced}$; $\text{RSSR} = \text{Cysvine or Glutathione oxidized}$.

pp 49–58

Figure 1 displays the chemical structure of the A_{2A} antagonist **6f** and its effects on haloperidol-induced catalepsy.

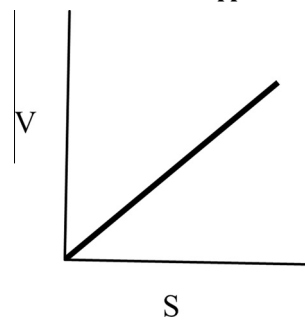
The chemical structure of **6f** is shown on the left. It is a 1,3-dimethyl-2-ethyl-4-((*E*)-4-(trifluoromethyl)phenyl)-1H-pyrazolo[1,5-*a*]pyrimidin-6(1H)-one derivative.

The middle graph shows the inhibition of $[^3H]$ -ZM241385 binding by **6f**. The x-axis represents the Log [**6f**] (ranging from -2 to 4), and the y-axis represents Bound (%) (ranging from 0 to 400). The data points show a sigmoidal decrease in binding as the concentration of **6f** increases, indicating competitive inhibition.

The right graph shows the effect of **6f** on haloperidol-induced catalepsy. The x-axis represents the dose of **6f** (control, 0.1 mg/kg, 0.4 mg/kg, 1 mg/kg, 2 mg/kg), and the y-axis represents Time (s) (ranging from 0 to 125). The bars show that the time spent in the cataleptic state decreases as the dose of **6f** increases, indicating that **6f** attenuates haloperidol-induced catalepsy.

Letter to the Editor**Analysis of claims of enhanced enzyme catalysis by inorganic colloidosomes****pp 59–60**

Ronald Kluger*



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