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Drug design of diphenyl α-aminoalkylphosphonates as prostate-specific antigen antagonists

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We report that diphenyl α-aminoalkylphosphonate ester derivatives act as potent inhibitors of PSA, a likely protease responsible for the advancement of prostate tumor progression. The new lead compound R/S-diphenyl[N-benzyloxycarbonylamino (4-carbamoylphenyl) methyl]phosphonate showed a potent inhibitor of PSA activity with IC_{50}= 250 nM. The study introduces novel aminoalkylphosphonates as a potential drug candidate for targeting PSA.

Biography

Hai-Feng Ji is a Professor in the Department of Chemistry in the College of Arts and Sciences at Drexel University. His current research interests include micromechanical sensors for biological and environmental applications, nanopillars for energy applications, cancer detection and treatment, etc. He has published more than 130 peer-reviewed journal publications.

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