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(54) Title: IP4-4,6 SUBSTITUTED DERIVATIVE COMPOUNDS

(57) Abstract: The present invention provides IP4-4,6 substituted derivatives, their methods of synthesis and their uses. In some aspects, the IP4-4,6 derivative is a compound of formula I wherein R₁, R₃, R₇, and R₁₁ are OPO₃²⁻, and R₅ and R₉ are selected from the group consisting of -O(Alkyl)_nX, -O(Alkyl)_yCy(Alkyl)₂Y-Z, -O(Alkyl)_yA(Alkyl)_y-Z', and their thiophosphate analogs. Also provided are methods, pharmaceutical compositions and formulations, methods of use, articles of manufacture, and kits for the treatment of diseases and conditions such as pathological crystallization-related diseases and conditions.

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