



(51) International Patent Classification:

C07D 487/04 (2006.01) *C07H 19/23* (2006.01)
A61K 31/395 (2006.01) *A61K 31/7052* (2006.01)
A61K 31/41 (2006.01) *A61P 31/12* (2006.01)
A61K 31/4188 (2006.01)

(21) International Application Number:

PCT/US2009/041432

(22) International Filing Date:

22 April 2009 (22.04.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/047,263 23 April 2008 (23.04.2008) US
 61/139,449 19 December 2008 (19.12.2008) US

(71) Applicant (for all designated States except US):
GILEAD SCIENCES, INC. [US/US]; 333 Lakeside
 Drive, Foster City, CA 94404 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CHO, Aesop**
 [US/US]; 1656 Notre Dame Drive, Mountain View, CA
 94040 (US). **KIM, Choung, U.** [US/US]; 1750 Elizabeth
 Street, San Carlos, CA 94070 (US). **PARRISH, Jay** [US/
 US]; 760 Bair Island Rd., #100, Redwood City, CA
 94063 (US). **XU, Jie** [US/US]; 812 Rigel Lane, Foster
 City, CA 94404 (US).

(74) Agents: **WARD, John** et al.; 333 Lakeside Drive, Foster
 City, CA 94404 (US).

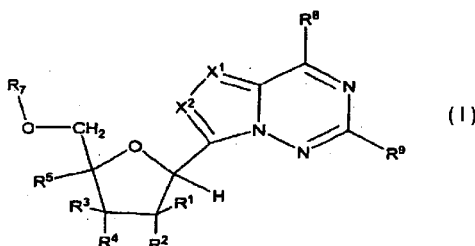
(81) Designated States (unless otherwise indicated, for every
 kind of national protection available): AE, AG, AL, AM,
 AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ,
 EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
 HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
 KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
 MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,
 NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG,
 SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA,
 UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
 kind of regional protection available): ARIPO (BW, GH,
 GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
 ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,
 TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
 ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
 MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR),
 OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
 MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: CARBA-NUCLEOSIDE ANALOGS FOR ANTIVIRAL TREATMENT



(57) Abstract: Provided are imidazol [1,5-f] [1,2,4]triazinyl, imidazol [1,2,4]triazinyl, and [1,2,4] triazolo [4,3-f] [1,2,4] triazinyl nucleosides of formula I nucleoside phosphates and prodrugs thereof. The compounds, compositions, and methods provided are useful for the treatment of Flaviviridae virus infections, particularly hepatitis C infections. Wherein X¹ or X² is indepently C-R¹⁰ or N and wherein at least one of X¹ or X² is N.