

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
29 March 2007 (29.03.2007)

PCT

(10) International Publication Number
WO 2007/034032 A1

(51) International Patent Classification:
C08B 37/08 (2006.01) *C07D 295/15* (2006.01)
C08B 31/04 (2006.01)

(74) Agent: **OY JALO ANT-WUORINEN AB**; Iso
Roobertinkatu 4-6 A, FI-00120 Helsinki (FI).

(21) International Application Number:
PCT/FI2006/050373

(22) International Filing Date: 31 August 2006 (31.08.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20055503 20 September 2005 (20.09.2005) FI

(71) Applicant (for all designated States except US):
FENNOPHARMA OY [FI/FI]; Mikrokatu 1, FI-70210
Kuopio (FI).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HOLAPPA, Jukka**
[FI/FI]; Härkätie 26 A 2, FI-70780 Kuopio (FI). **JÄRVI-**
NEN, Tomi [FI/FI]; Sompatie 3 I 6, FI-70200 Kuopio
(FI). **NEVALAINEN, Tapio** [FI/FI]; Teriöpolku 1 C,
FI-70280 Kuopio (FI). **SAVOLAINEN, Jouko** [FI/FI];
Koiravedenkatu 20 A 4, FI-70800 Kuopio (FI). **SAFIN,**
Rustam [FI/FI]; Juontotie 3 I 55, FI-70150 Kuopio (FI).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP,
KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT,
LU, LV, LY, MA, MD, 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, 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, HU, IE, IS, IT, LT, LU, LV, MC, NL, 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

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: NOVEL QUATERNARY POLYMERS

(57) Abstract: The present invention relates to novel quaternized polymers, especially of chitin/chitosan type, and to carbohydrate polymers carrying quaternized ammonium groups, especially piperazinium groups. Such polymers are characterized i.a. by im-
proved solubility characteristics.

WO 2007/034032 A1