

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
MUTHIAH MANOHARAN	12/03/2016
SHIGEO MATSUDA	01/03/2017
KALLANTHOTTATHIL G. RAJEEV	10/19/2016
IVAN ZLATEV	12/05/2016
RECEIVING PARTY DATA	
Name:	ALNYLAM PHARMACEUTICALS, INC.
Street Address:	300 THIRD STREET
City:	CAMBRIDGE
State/Country:	MASSACHUSETTS
Postal Code:	02142
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15110658
CORRESPONDENCE DATA	
Fax Number:	(703)684-8075
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
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ATTORNEY DOCKET NUMBER:	29520.1202
NAME OF SUBMITTER:	JEFFREY N. TOWNES
SIGNATURE:	/Jeffrey N. Townes, Reg. # 47,142/
DATE SIGNED:	06/12/2017
Total Attachments: 2	
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ASSIGNMENT BY INVENTORS

THIS ASSIGNMENT, by Muthiah MANOHARAN, Shigeo MATSUDA, Kallanthottathil G. RAJEEV, and Ivan ZLATEV (hereinafter referred to as Assignors);

WHEREAS, Assignors have invented certain new and useful improvements in RNAi AGENTS MODIFIED AT THE 4'-C POSITION, set forth in U.S. Patent Application No. 15/110,658, filed July 8, 2016; International PCT Application No. PCT/US2015/010858, filed January 9, 2015; and U.S. Provisional Application No. 61/925,369, filed January 9, 2014.

WHEREAS, ALNYLAM PHARMACEUTICALS, INC., a Corporation organized under and pursuant to the laws of Delaware having its principal place of business at 300 Third Street, Cambridge, MA 02142, its heirs, successors, legal representatives and assigns (hereinafter referred to as Assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said Applications for Letters Patent of the United States and all other territories in the world, and in and to any Letters Patent to be obtained therefore and thereon.

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions and applications for Letters Patent, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said applications, and any an all Letters Patent **in the United States and all other countries in the world** which may be granted therefore and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and assignment not been made.

AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these represents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title and interest in and to the said inventions and applications for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and

documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said Patent applications for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.


AND Assignors hereby request the Commissioner for Patents and Trademarks to issue said Letters Patent of the United States to Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

AND the undersigned hereby grant(s) the law firm of LeClairRyan the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

Date 12/3/2016 Signature 
Name Muthiah MANOHARAN

Date 01/03/2017 Signature 
Name Shigeo MATSUDA

Date 10/19/2016 Signature 
Name Kallanthottathil G. RAJEEV

Date 12/05/2016 Signature 
Name Ivan ZLATEV