#### 502465052 08/20/2013

#### PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

| SUBMISSION TYPE:      | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT     |

#### **CONVEYING PARTY DATA**

| Name                 | Execution Date |
|----------------------|----------------|
| Marina Biotech, Inc. | 08/14/2013     |

#### RECEIVING PARTY DATA

| Name:           | Arcturus Therapeutics, Inc. |
|-----------------|-----------------------------|
| Street Address: | 3210 Merryfield Row         |
| City:           | San Diego                   |
| State/Country:  | CALIFORNIA                  |
| Postal Code:    | 92121                       |

#### PROPERTY NUMBERS Total: 1

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 13652965 |

#### CORRESPONDENCE DATA

Fax Number: 6503201707

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 415-230-5353
Email: reckman@eb-ip.com
Correspondent Name: Richard Eckman

Address Line 1: 2225 East Bayshore Road

Address Line 2: Suite 200

Address Line 4: Palo Alto, CALIFORNIA 94303

| ATTORNEY DOCKET NUMBER: | ARC0807US2           |
|-------------------------|----------------------|
| NAME OF SUBMITTER:      | Richard R. Eckman    |
| Signature:              | / Richard R Eckman / |
| Date:                   | 08/20/2013           |

#### Total Attachments: 4

source=Arcturus Assignment - executed#page1.tif source=Arcturus Assignment - executed#page2.tif source=Arcturus Assignment - executed#page3.tif source=Arcturus Assignment - executed#page4.tif

> PATENT REEL: 031047 FRAME: 0062

H \$40,00 136529

#### **EXHIBIT B**

#### PATENT ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, Marina Biotech, Inc., a Delaware corporation, hereinafter referred to as the ASSIGNOR, confirms that ASSIGNOR has sold and assigned, and does hereby assign, sell and transfer to Arcturus Therapeutics, Inc., a Delaware corporation, with offices at 3210 Merryfield Row, San Diego, California, 92121, USA, and to its successors, assigns and legal representatives, collectively hereinafter referred to as the ASSIGNEE: (1) our entire right, title and interest for the United States of America and in all countries, in and to any and all inventions, discoveries and applications identified in Attachment A hereto, including any subsequently filed utility applications, and including any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof and any substitute applications therefor; (2) the full and complete right to file patent applications in the name of the ASSIGNEE, or its designee, or its designee's election, on the aforesaid inventions, discoveries and applications in all countries of the world; (3) the entire right, title and interest in and to any Letters Patent which may issue thereon in the United States or in any country, and any renewals, revivals, reissues, reexaminations and extensions thereof, and any patents of confirmation, registration and importation of the same; and (4) the entire right, title and interest in all Convention and Treaty Rights of all kinds thereon, including without limitation all rights of priority in any country of the world, in and to the inventions, discoveries and applications identified in Attachment A.

ASSIGNOR hereby authorizes and requests the competent authorities to grant and to issue any and all such Letters Patent in the United States and throughout the world to the ASSIGNEE of the entire right, title and interest therein, as fully and entirely as the same would have been held and enjoyed by us had this assignment, sale and transfer not been made.

ASSIGNOR agrees, at any time, upon the request of the ASSIGNEE, to execute and to deliver to the ASSIGNEE any additional applications for patents for said inventions and discoveries, or any part or parts thereof, and any applications for patents of confirmation, registration and importation based on any Letters Patent issuing on said inventions, discoveries, or applications and divisions, continuations, renewals, revivals, reissues, reexaminations and extensions thereof.

ASSIGNOR further agrees at any time to execute and to deliver upon request of the ASSIGNEE such additional documents, if any, as are necessary or desirable to secure patent protection on said inventions, discoveries and applications throughout all countries of the world, and otherwise to do the necessary to give full effect to and to perfect the rights of the ASSIGNEE under this Assignment, including the execution, delivery and procurement of any and all further documents evidencing this assignment, transfer and sale as may be necessary or desirable.

PATENT REEL: 031047 FRAME: 0063 ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, <u>ASSIGNOR</u> has caused this Patent Assignment to be duly signed on its behalf.

Date: 14 AUGUST 2013

For ASSIGNOR Marina Biotech, Inc.

Name: J. Michael French Title: President and CEO

IN WITNESS WHEREOF, ASSIGNEE has accepted this Patent Assignment to be recorded on its behalf.

Date: 14 August 2013

For ASSIGNEE Arcturus Therapeutics. Inc.

Name: Joseph E. Payne Title: President and CEO

# ATTACHMENT A [TO EXHIBIT B]

### ASSIGNED PATENTS

| Country            | Application/Serial No.                | Filing date                  |
|--------------------|---------------------------------------|------------------------------|
| HYDROXYMETHYL SUBS | TITUTED RNA OLIGONUCLEOTIL            | DES AND RNA COMPLEXES        |
| PCT                | PCT/US2008/064417                     | May 21, 2008                 |
| Australia          | 2008256871                            | May 21, 2008                 |
| Brazil             | PI0811170-7                           | May 21, 2008                 |
| Canada             | 2,687,850                             | May 21, 2008                 |
| China              | 200880016977.5                        | May 21, 2008                 |
| EPO                | 08780679.0                            | May 21, 2008                 |
| Hong Kong          | 10104397.9                            | May 21, 2008                 |
| Israel             | 202040                                | May 21, 2008                 |
| India              | 7213/DELNP/2009                       | May 21, 2008                 |
| Japan              | 2010-509534                           | May 21, 2008                 |
| Republic of Korea  | 10-2009-7024222                       | May 21, 2008                 |
| Mexico             | MX/a/2009/012568                      | May 21, 2008                 |
| Malaysia           | PI 20094688                           | May 21, 2008                 |
| New Zealand        | 580712                                | May 21, 2008                 |
| Singapore          | 200907326-3                           | May 21, 2008                 |
| South Africa       | 2009/07529                            |                              |
| U.S.               | 12/515,403<br>US Patent No. 8,314,227 | May 21, 2008<br>May 21, 2008 |
| U.S.               | 13/652,965                            | October 16, 2012             |

# ATTACHMENT A [TO EXHIBIT B] (continued)

### ASSIGNED PATENTS

| Country           | Application/Serial No. | Filing date      |
|-------------------|------------------------|------------------|
|                   | USIRNA COMPLEXES       |                  |
| PCT               | PCT/US2009/066610      | December 3, 2009 |
| Australia         | 2009322290             | December 3, 2009 |
| Brazil            | PI0922355-0            | December 3, 2009 |
| Canada            | 2,744,093              | December 3, 2009 |
| China             | 200980148743.0         | December 3, 2009 |
| EPO               | 09761143.8             | December 3, 2009 |
| Hong Kong         | 11112883.2             | December 3, 2009 |
| Israel            | 212941                 | December 3, 2009 |
| India             | 2540/KOLNP/2011        | December 3, 2009 |
| Japan             | 2011-539704            | December 3, 2009 |
| Republic of Korea | 10-2011-7015096        | December 3, 2009 |
| Singapore         | 201103961-7            | December 3, 2009 |
| South Africa      | 2011/04540             | December 3, 2009 |
| U.S.              | 13/130,032             | December 3, 2009 |

Page 4 of 4