

Lightwave Logic, Inc.  
Form 8-K  
March 17, 2011

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM 8-K**  
**CURRENT REPORT**

**Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): March 17, 2011

**Lightwave Logic, Inc.**  
(Exact name of registrant as specified in its charter)

**Nevada**  
(State or other jurisdiction of  
Incorporation or Organization)

**0-52567**  
(Commission File Number)

**82-049-7368**  
(I.R.S. Employer  
Identification No.)

**121 Continental Drive, Suite 110, Newark, Delaware**  
(Address of principal executive offices)

**19713**  
(Zip Code)

Registrant's telephone number including area code: 302-356-2717

(Former name or former address if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

[ ]

Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

[ ]

Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

[ ]

Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

[ ]

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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**Item 7.01**

**Regulation FD Disclosure**

On March 17, 2011, the registrant issued a press release announcing it has fabricated its first-ever all optical waveguide using one of the registrant's Third-order **Perkinamine NR<sup>TM</sup>** chromophores. The full text of the press release is attached as Exhibit 99.1 to this report and is incorporated herein by reference.

**Item 9.01**

**Financial Statements and Exhibits**

Exhibit No.

Description

99.1

Press Release dated March 17, 2011.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

LIGHTWAVE LOGIC, INC.

By: /s/ James S. Marcelli

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James S. Marcelli

Dated: March 17, 2011