

Securities and Exchange Commission

Washington, D.C. 20549

Schedule 13G

Under the Securities Exchange Act of 1934

(Amendment No. 5)\*

December 31, 2017

(Date of event which requires filing of this statement)

Check the appropriate box to designate the rule pursuant to which  
this schedule is filed:

Rule 13d-1(b)

Rule 13d-1(c)

Rule 13d-1(d)

Name of Issuer: OvaScience, Inc.

Title of Class of Securities: Common Stock

CUSIP Number: 69014Q101

\*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP Number: 69014Q101

1. Name of Reporting Person: Jennison Associates LLC

S.S. or I.R.S. Identification No. of Above Person: IRS

Identification #52-2069785 (formerly 13-2631108)

2. Check the Appropriate Box if a Member of a Group: Not  
Applicable

3. SEC Use Only

4. Citizenship or Place of Organization: Delaware

Number of Shares Beneficially Owned By Each Reporting Person

With:

5. Sole Voting Power: 2,187,849 shares
6. Shared Voting Power: 0 shares
7. Sole Dispositive Power: 0 shares
8. Shared Dispositive Power: 2,187,849 shares
9. Aggregate Amount Beneficially Owned by Each Reporting Person: 2,187,849 shares
10. Check Box if the Aggregate Amount in Row 9 Excludes Certain Shares: ( )
11. Percent of Class Represented by Amount in Row 9: 6.1%
12. Type of Reporting Person\*: IA

Item 1(a) Name of Issuer: OvaScience, Inc.

Item 1(b) Address of Issuer's Principal Executive Offices:

9 Fourth Avenue  
Waltham, MA 02451

Item 2(a) Name of Person Filing: Jennison Associates LLC

Item 2(b) Address of Principal Business Office or Residence:

466 Lexington Avenue  
New York, NY 10017

Item 2(c) Citizenship: Delaware

Item 2(d) Title of Class of Securities: Common

Item 2(e) CUSIP Number: 69014Q101

Item 3 If this statement is filed pursuant to Rules 13d-1(b), or 13d-2(b), or (c) check whether the person filing is a:

(a) ( ) Broker or Dealer registered under Section 15 of the Act

(b) ( ) Bank as defined in Section 3(a) (6) of the Act

(c) ( ) Insurance Company as defined in Section 3(a) (19) of the Act

(d) ( ) Investment Company registered under Section 8 of the Investment Company Act

(e) (X) Investment Adviser in accordance with Section 240.13d-1(b) (1) (ii) (E)

(f) ( ) Employee Benefit Plan, Pension Fund which is subject to the provision of the Employee Retirement Income Security

Act of 1974 or Endowment Fund in accordance with Section  
240.13d-1(b) (ii) (F)

(g) ( ) Parent Holding Company or control person, in accordance  
with Section 240.13(b) (ii) (G)

(h) ( ) A savings association as defined by Section 3(b) of the  
Federal Deposit Insurance Act

(i) ( ) A church plan that is excluded from the definition of an  
investment company under Section 3(c) (4) of the Investment Company  
Act of 1940.

(j) ( ) Group, in accordance with Section 240.13d-1(b) (1) (ii) (J).  
If this statement is filed pursuant to Section 240.13d-1(c), check  
this box. ( )

Item 4 Ownership:

Provide the following information regarding the aggregate number  
and percentage of the class of securities of the issuer identified  
in Item 1.

(a) Amount Beneficially Owned: 2,187,849

(b) Percent of Class: 6.1%

(c) Number of shares as to which the person has:

(i) sole power to vote or to direct the vote: 2,187,849

(ii) shared power to vote or to direct the vote: 0

(iii) sole power to dispose or to direct the disposition of: 0

(iv) shared power to dispose or to direct the disposition of: 2,187,849

Jennison Associates LLC ("Jennison") furnishes  
investment advice to several investment companies,  
insurance separate accounts, and institutional clients ("Managed  
Portfolios"). As a result of its role as investment adviser of  
the Managed Portfolios, Jennison may be deemed to be the  
beneficial owner of the shares of the Issuer's Common Stock  
held by such Managed Portfolios. Prudential Financial, Inc.  
("Prudential") indirectly owns 100% of equity interests of  
Jennison. As a result, Prudential may be deemed to have the  
power to exercise or to direct the exercise of such voting  
and/or dispositive power that Jennison may have with respect to

the Issuer's Common Stock held by the Managed Portfolios.  
Jennison does not file jointly with Prudential, as such, shares of the Issuer's Common Stock reported on Jennison's 13G may be included in the shares reported on the 13G filed by Prudential. These shares were acquired in the ordinary course of business, and not with the purpose or effect of changing or influencing control of the Issuer. The filing of this statement should not be construed as an admission that Jennison is, for the purposes of Sections 13 or 16 of the Securities Exchange Act of 1934, the beneficial owner of these shares.

Item 5 Ownership of Five Percent or Less of a Class:

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the securities, check the following ( ).

Item 6 Ownership of More than Five Percent on Behalf of Another Person:

Our clients have the right to receive or the power to direct the receipt of dividends or the profits from the sale of such securities. No one client owns more than 5% of such security class.

Item 7 Identification and Classification of the Subsidiary which Acquired the Security being Reported on by the Parent Holding Company: Not Applicable

Item 8 Identification and Classification of Members of the Group: Not Applicable

Item 9 Notice of Dissolution of Group: Not Applicable

Item 10 Certification:

By signing below I certify that, to the best of my knowledge

and belief, the securities referred to above were acquired and are in held the ordinary course of business and were not acquired and are not held for the purpose of and do not have the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect. After reasonable inquiry and to the best of my knowledge and belief, I certify that the correct information set forth in this statement is true, complete and correct.

February 5, 2018

/s/ Janet Early  
Janet Early  
Vice President