Solexa, Inc. Form SC 13D/A February 15, 2007

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

SCHEDULE 13D/A (RULE 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO RULE 13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO RULE 13d-2(a)

(Amendment No. 2) *

SOLEXA, INC.

(Name of Issuer)

COMMON STOCK

(Title of Class of Securities)

83420X10 5

(CUSIP Number)

James Abell
c/o Abingworth Management Limited
Princess House
38 Jermyn Street
London, England SW1Y 6DN
(+44 (0)20 7534 1500)

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

January 18, 2007

(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D/A, and is filing this schedule because of Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box $|_|$.

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

*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 disclosures provided in a prior cover page.

The information required on 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 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).

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) Abingworth Management Limited						
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) _ (b) _						
3	SEC USE ONLY						
4	SOURCE OF FUNDS AF						
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) N/A _						
6	CITIZENSHIP OR PLACE OF	ORGANI	ZATION:	England			
NUMBE:		7	SOLE VOTING POWER	R			
OWNED EACH		8	SHARED VOTING POWER 3,153,695				
		9	SOLE DISPOSITIVE 0	POWER			
		10	SHARED DISPOSITIV	VE POWER			
11 A	GGREGATE AMOUNT BENEFICIA	ALLY OW	NED BY EACH REPOR'	TING PERSON			
12 CH	ECK BOX IF THE AGGREGATE	AMOUNT	IN ROW (11) EXCL	UDES CERTAIN SHARES			
13 P	ERCENT OF CLASS REPRESEN	TED BY	AMOUNT IN ROW (11) 7.5%			
14 TYPE OF REPORTING PERSON CO							
			2 of 17				
1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) Abingworth Bioventures II SICAV						
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) _ (b) _						
3	SEC USE ONLY						

4	SOURCE OF FUNDS OO					
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) N/A _					
6	CITIZENSHIP OR PLACE OF ORGANIZATION: Luxembourg					
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH		7	SOLE VOTING POWER 0			
		8 SHARED VOTING POWER 2,738,300				
		9	SOLE DISPOSITIVE POWER 0			
		10	SHARED DISPOSITIVE POWER 2,738,300			
11 A	GGREGATE AMOUNT BENEFICI.	ALLY OW	NED BY EACH REPORTING PERSON			
12 CH	ECK BOX IF THE AGGREGATE	AMOUNT	IN ROW (11) EXCLUDES CERTAIN SHARES			
13 P	ERCENT OF CLASS REPRESEN	TED BY	AMOUNT IN ROW (11) 6.5%			
			3 of 17			
1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) Abingworth Bioventures II A L.P.					
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) _ (b) _					
3	SEC USE ONLY					
4	SOURCE OF FUNDS OO					
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) N/A _					
6	CITIZENSHIP OR PLACE OF	ORGANI	ZATION: England			
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH		7	SOLE VOTING POWER 0			
		8	SHARED VOTING POWER 2,738,300			
		9	SOLE DISPOSITIVE POWER 0			

10 SHARED DISPOSITIVE POWER
2,738,300

11 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON
2,738,300

12 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES
N/A |__|

13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 6.5%

14 TYPE OF REPORTING PERSON PN

4 of 17

______ NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) Abingworth Bioventures III A L.P. _____ CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) |_| (b) |_| SEC USE ONLY ______ SOURCE OF FUNDS OO CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) N/A ______ England CITIZENSHIP OR PLACE OF ORGANIZATION: ______ SOLE VOTING POWER NUMBER OF SHARES 0 BENEFICIALLY SHARED VOTING POWER OWNED BY 2,738,300 EACH REPORTING PERSON WITH SOLE DISPOSITIVE POWER 10 SHARED DISPOSITIVE POWER 2,738,300 11 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 2,738,300 ______ 12 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES

5 of 17

PΝ

13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 6.5%

14 TYPE OF REPORTING PERSON

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) Abingworth Bioventures III B L.P.						
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*						
3	SEC USE ONLY						
4	SOURCE OF FUNDS OO						
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) N/A _						
6	CITIZENSHIP OR PLACE OF	ORGANI	ZATION:	England			
NUMBER OF SHARES BENEFICIALLY		7	SOLE VOTING PO	DWER			
OWNED EACH	ВУ	8	SHARED VOTING 2,738,300	POWER			
REPORTING PERSON WITH		9 SOLE DISPOSITIVE POWER 0					
		10	SHARED DISPOSI 2,738,300	ITIVE POWER			
11 A	GGREGATE AMOUNT BENEFICI	ALLY OW	NED BY EACH REE	PORTING PERSON			
	2,738,300						
12 CH	2 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES N/A _						
13 P	ERCENT OF CLASS REPRESEN	TED BY	AMOUNT IN ROW	(11) 6.5%			
14 T	YPE OF REPORTING PERSON		PN				
			6 of 17				
1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) Abingworth Bioventures III C L.P.						
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) _ (b) _						
3	SEC USE ONLY						
4	SOURCE OF FUNDS OO						

5	CHECK BOX IF DISCLOSUR PURSUANT TO ITEM 2(d)					
6	CITIZENSHIP OR PLACE (OF ORGA	NIZATION:	England		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH		7	SOLE VOTING POWER 0			
		8	8 SHARED VOTING POWER 2,738,300 9 SOLE DISPOSITIVE POWER 0			
		9				
			SHARED D	ISPOSITIVE POWER		
11	AGGREGATE AMOUNT BENEFIC	CIALLY	OWNED BY EA	CH REPORTING PERSON		
	2,738,300					
12 (CHECK BOX IF THE AGGREGATION N/A	TE AMOU	NT IN ROW (11) EXCLUDES CERTAIN SHARES		
13	PERCENT OF CLASS REPRESE	ENTED B	Y AMOUNT IN	ROW (11) 6.5%		
14	TYPE OF REPORTING PERSON	N	PN			
			7 of 17			
1	NAME OF REPORTING PERS I.R.S. IDENTIFICATION Abingworth Bioventures	NOS. O				
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) _ (b) _					
3	SEC USE ONLY					
4	SOURCE OF FUNDS OO					
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) N/A _					
6	CITIZENSHIP OR PLACE (OF ORGA	NIZATION:	England		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH		7	SOLE VOT	ING POWER		
		8	SHARED V	OTING POWER		
		9	SOLE DIS	POSITIVE POWER		
		10	SHARED D	ISPOSITIVE POWER		

11 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

2,738,300

12 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES N/A $|_|$

13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 6.5%

14 TYPE OF REPORTING PERSON PN

8 of 17

Schedule 13D/A

This Schedule 13D/A (the "Amendment") amends the Schedule 13D/A, filed by the Reporting Persons (as defined below) on December 15, 2006.

ITEM 1. SECURITY AND ISSUER.

- (a) The class of equity securities to which this statement relates is common stock, par value \$0.01 per share (the "Common Stock"), of Solexa, Inc., a Delaware corporation (the "Issuer" or "SLXA").
- (b) The principal executive offices of the Issuer are located at 25861 Industrial Blvd., Hayward, California, 94545.

ITEM 2. IDENTITY AND BACKGROUND.

(a) This Statement is being filed on behalf of: (i) Abingworth Management Limited ("Abingworth Management"), (ii) Abingworth Bioventures II SICAV ("ABV II SICAV") and (iii) Abingworth Bioventures II A L.P. ("ABV II A"), (iv) Abingworth Bioventures III A L.P. ("ABV III A"), (v) Abingworth Bioventures III B L.P. ("ABV III B"), (vi) Abingworth Bioventures III C L.P. ("ABV III C"), and (vii) Abingworth Bioventures III Executives L.P. ("ABV III Executives", together with ABV II SICAV, ABV II A, ABV III A, ABV III B and ABV III C the "Funds").

The Funds share a manager, Abingworth Management, and are affiliated funds, and, on this basis, may be deemed to beneficially own the shares held by one another. Each of the Funds disclaims beneficial ownership of such shares of Common Stock except for the shares, if any, such Fund holds of record. Abingworth Management may be deemed to beneficially own the shares of Common Stock held of record by the Funds and Abingworth Bioequities Master Fund Limited ("ABE") for which Abingworth Management is the manager. The persons named in this paragraph (other than ABE) are referred to individually herein as a "Reporting Person" and collectively as the "Reporting Persons."

- (b) The address of the principal business office of Abingworth Management, ABV II SICAV, ABV II A, ABV III A, ABV III B, ABV III C, and ABV III Executives is c/o Abingworth Management Limited, Princess House, 38 Jermyn Street, London, England SW1Y 6DN.
- (c) The principal business of the Funds is to invest in and assist growth-oriented businesses in the life science and biomedical industries. The principal business of Abingworth Management is to manage the affairs of the Funds.

- (d) During the five years prior to the date hereof, none of the Reporting Persons has been convicted in a criminal proceeding.
- (e) During the five years prior to the date hereof, none of the Reporting Persons has been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction ending in a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, Federal or State securities laws or finding any violation with respect to such laws.
- (f) Abingworth Management is a corporation organized under the laws of England. ABV II SICAV is a corporation organized under the laws of Luxembourg. Each of ABV II A,

9 of 17

ABV III A, ABV III B, and ABV III C is a limited partnership organized under the laws of England. ABV III Executives is a limited partnership organized under the laws of the State of Delaware.

ITEM 3. SOURCE AND AMOUNT OF FUNDS OR OTHER CONSIDERATION.

Not applicable.

ITEM 4. PURPOSE OF TRANSACTION.

Depending on market conditions and the market price of the Issuer's Common Stock, the Reporting Persons may dispose of additional shares of the Issuer. Except as set forth above, none of the Reporting Persons has any present plans which relate to or would result in:

- (a) The acquisition by any person of additional securities of the Issuer, or the disposition of securities of the Issuer;
- (b) An extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the Issuer or any of its subsidiaries;
- (c) A sale or transfer of a material amount of assets of the Issuer or any of its subsidiaries;
- (d) Any change in the present board of directors or management of the Issuer, including any plans or proposals to change the number or term of directors or to fill any existing vacancies on the board;
- (e) Any material change in the present capitalization or dividend policy of the Issuer;
- (f) any other material change in the Issuer's business or corporate structure;
- (g) Changes in the Issuer's charter, bylaws or instruments corresponding thereto or other actions which may impede the acquisition of control of the Issuer by any person;
- (h) Causing a class of securities of the Issuer to be delisted from a national securities exchange or to cease to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association;

- (i) A class of equity securities of the Issuer becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Securities Exchange Act of 1934; or
 - (j) Any action similar to any of those enumerated above.
- ITEM 5. INTEREST IN SECURITIES OF ISSUER.
- (a) As of the filing of this Amendment, (i) ABV II SICAV is the owner of record of 990,275 shares of the Common Stock of the Issuer, (ii) ABV II A is the owner of record of 267,962 shares of the Common Stock of the Issuer and immediately exercisable warrants to purchase 125,000 shares of Common Stock, (iii) ABV III A is the owner of record of 534,759 shares of the Common Stock of the Issuer and immediately exercisable warrants to purchase 145,489 shares of Common Stock, (iv) ABV III B is the owner of record of 326,439 shares of the Common Stock of the Issuer and immediately exercisable warrants to purchase 88,812 shares of Common Stock, (v) ABV III C is the owner of record of 195,529 shares of the Common Stock of

Page 10 of 17

the Issuer and immediately exercisable warrants to purchase 53,200 shares of Common Stock, (vi) ABV III Executives is the owner of record of 8,516 shares of the Common Stock of the Issuer and immediately exercisable warrants to purchase 2,319 shares of Common Stock and (vii) ABE is the owner of record of 307,700 shares of the Common Stock of the Issuer and immediately exercisable warrants to purchase 107,695 shares of Common Stock. The Funds, collectively, may be deemed to beneficially own 2,738,300 shares of Common Stock (which includes the immediately exercisable warrants to purchase 414,820 shares of Common Stock held by the Funds), comprising 6.5% of the outstanding Common Stock of the Issuer. Abingworth Management, as the manager of each of the Funds and ABE, may be deemed to beneficially own 3,153,695 shares of Common Stock (which includes the immediately exercisable warrants to purchase 414,820 shares of Common Stock held by the Funds and the immediately exercisable warrants to purchase 107,695 shares of Common Stock held by ABE), comprising 7.5% of the outstanding Common Stock of the Issuer. These numbers are based on a total of 41,819,832 shares of Common Stock of the Issuer outstanding as of December 6, 2006, as reported by the Issuer in a communication to the Reporting Persons.

- (b) Number of shares as to which each person named in paragraph (a) above has:
 - (i) sole power to vote or to direct the vote: see line 7 of cover sheets.
 - (ii) shared power to vote or to direct the vote: see line 8 of cover sheets.
 - (iii) sole power to dispose or to direct the $\,$ disposition: see line 9 $\,$ of cover sheets.
 - (iv) shared power to dispose or to direct the disposition: see line 10 of cover sheets.
 - (c) Between December 5, 2006 and January 19, 2007,
 - (i) ABV II SICAV sold an aggregate of 213,066 shares of Common Stock on the open market for an aggregate consideration of \$2,819,915 (65,887 shares were sold on December 6, 2006; 7,543 shares were sold on December 7, 2006; 11,806 shares were

sold on December 8, 2006; 95,446 shares were sold on January 18, 2007; and 32,384 shares were sold on January 19, 2007);

- (ii) ABV II A sold an aggregate of 57,656 shares of Common Stock on the open market for an aggregate consideration of \$763,073 (17,830 shares were sold on December 6, 2006; 2,041 shares were sold on December 7, 2006; 3,195 shares were sold on December 8, 2006; 25,827 shares were sold on January 18, 2007; and 8,763 shares were sold on January 19, 2007);
- (iii) ABV III A sold an aggregate of 115,093 shares of Common Stock on the open market for an aggregate consideration of \$1,523,252.80 (35,584 shares were sold on December 6, 2006; 4,074 shares were sold on December 7, 2006; 6,375 shares were sold on December 8, 2006; 51,565 shares were sold on January 18, 2007; and 17,495 shares were sold on January 19, 2007);
- (iv) ABV III B sold an aggregate of 70,249 shares of Common Stock on the open market for an aggregate consideration of \$929,742.92 (21,721

Page 11 of 17

shares were sold on December 6, 2006; 2,487 shares were sold on December 7, 2006; 3,891 shares were sold on December 8, 2006; 31,472 shares were sold on January 18, 2007; and 10,678 shares were sold on January 19, 2007);

- (v) ABV III C sold an aggregate of 42,092 shares of Common Stock on the open market for an aggregate consideration of \$557,087.72 (13,011 shares were sold on December 6, 2006; 1,490 shares were sold on December 7, 2006; 2,331 shares were sold on December 8, 2006; 18,861 shares were sold on January 18, 2007; and 6,399 shares were sold on January 19, 2007);
- (vi) ABV III Executives sold an aggregate of 1,844 shares of Common Stock on the open market for an aggregate consideration of \$24,406.61 (567 shares were sold on December 6, 2006; 65 shares were sold on December 7, 2006; 102 shares were sold on December 8, 2006; 829 shares were sold on January 18, 2007; and 281 shares were sold on January 19, 2007).

All of the Reporting Persons sold the above shares on the open market. The average price per share for shares of Common Stock sold by each of the above Reporting Persons on the dates specified above was as follows: \$13.00 on December 6, 2006; \$13.08 on December 7, 2006; \$13.00 on December 8, 2006; \$13.39 on January 18, 2007; and \$13.37 on January 19, 2007.

- (d) No other person is known to have the right to $\,$ receive or the power to direct the $\,$ receipt of $\,$ dividends $\,$ from, $\,$ or any $\,$ proceeds $\,$ from the sale of the shares beneficially owned by any of the Reporting Persons.
 - (e) Not applicable.

ITEM 6. CONTRACTS, ARRANGEMENTS, UNDERSTANDINGS OR RELATIONSHIPS WITH RESPECT TO SECURITIES OF THE ISSUER.

Not applicable.

ITEM 7. MATERIAL TO BE FILED AS EXHIBITS.

A. Agreement regarding filing of joint Schedule 13D/A.

12 of 17

SIGNATURES

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: February 1, 2007

ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

ABINGWORTH BIOVENTURES II SICAV IN LIQUIDATION

By: /s/ Genevieve Blauen

Name: Genevieve Blauen

Title: Liquidator

By: /s/ Fernand Heim

Name: Fernand Heim Title: Mandatory

ABINGWORTH BIOVENTURES II A L.P.

BY ITS MANAGER, ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

ABINGWORTH BIOVENTURES III A L.P. BY ITS MANAGER, ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

13 of 17

ABINGWORTH BIOVENTURES III B L.P. BY ITS MANAGER, ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

ABINGWORTH BIOVENTURES III C L.P. BY ITS MANAGER, ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

ABINGWORTH BIOVENTURES III EXECUTIVES L.P. BY ITS MANAGER, ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

14 of 17

EXHIBIT INDEX

A. Agreement regarding filing of joint Schedule 13D/A.

15 of 17

Exhibit A

JOINT FILING UNDERTAKING

Pursuant to Rule 13d-1(k)(1) promulgated under the Securities Exchange Act of 1934, as amended, each of the undersigned agree that the Schedule 13D/A, and any amendments thereto, filed with respect to the beneficial ownership by the undersigned of the equity securities of Solexa, Inc., is being filed on behalf of each of the undersigned.

Dated: February 1, 2007

ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

ABINGWORTH BIOVENTURES II SICAV IN LIQUIDATION

By: /s/ Genevieve Blauen

Name: Genevieve Blauen

Title: Liquidator

By: /s/ Fernand Heim

Name: Fernand Heim Title: Mandatory

ABINGWORTH BIOVENTURES II A L.P.

BY ITS MANAGER, ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

ABINGWORTH BIOVENTURES III A L.P.

BY ITS MANAGER, ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

16 of 17

ABINGWORTH BIOVENTURES III B L.P.

BY ITS MANAGER, ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

ABINGWORTH BIOVENTURES III C L.P.

BY ITS MANAGER, ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

ABINGWORTH BIOVENTURES III EXECUTIVES L.P. BY ITS MANAGER, ABINGWORTH MANAGEMENT LIMITED

By: /s/ James Abell

Name: James Abell

Title: Executive Director

Page 17 of 17