

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

SCHEDULE 13D

**Under the Securities Exchange Act of 1934
(Amendment No. 1)***

TONIX PHARMACEUTICALS HOLDING CORP.

(Name of Issuer)

COMMON STOCK, PAR VALUE \$.001 PER SHARE

(Title of Class of Securities)

890260 201

(CUSIP Number)

Marc J. Ross, Esq.
James M. Turner, Esq.
Sichenzia Ross Friedman Ference LLP
61 Broadway, 32nd Floor,
New York, NY 10006
Tel: (212) 930-9700

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

August 14, 2013

(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 which is the subject of this Schedule 13D, 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(b) for other parties to whom copies are to be sent.

1 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 Seth Lederman		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)		(a) <input type="checkbox"/> (b) <input type="checkbox"/>
3	SEC USE ONLY		
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)		PF
5	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e)		
6	CITIZENSHIP OR PLACE OF ORGANIZATION United States		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER	459,718
	8	SHARED VOTING POWER	56,791
	9	SOLE DISPOSITIVE POWER	459,718
	10	SHARED DISPOSITIVE POWER	56,791
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 516,509		
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)		<input type="checkbox"/>
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)		10.2% (1)
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)		IN

(1) This percentage is calculated based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013.

1	NAME OF REPORTING PERSONS Lederman & Co., LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)	(a) <input type="checkbox"/> (b) <input type="checkbox"/>
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)	AF
5	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e)	
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 289,128
	8	SHARED VOTING POWER 0
	9	SOLE DISPOSITIVE POWER 289,128
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 289,128	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 5.8% (1)	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) OO	

(1) This percentage is calculated based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013.

1	NAME OF REPORTING PERSONS L&L Technologies, LLC		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)		(a) <input type="checkbox"/> (b) <input type="checkbox"/>
3	SEC USE ONLY		
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)		AF
5	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e)		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER	56,791
	8	SHARED VOTING POWER	0
	9	SOLE DISPOSITIVE POWER	56,791
	10	SHARED DISPOSITIVE POWER	0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 56,791		
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)		<input type="checkbox"/>
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)		1.2% (1)
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)		OO

(1) This percentage is calculated based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013.

1	NAME OF REPORTING PERSONS Targent Pharmaceuticals, LLC		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)		(a) <input type="checkbox"/> (b) <input type="checkbox"/>
3	SEC USE ONLY		
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)		AF
5	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e)		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER	67,222
	8	SHARED VOTING POWER	0
	9	SOLE DISPOSITIVE POWER	67,222
	10	SHARED DISPOSITIVE POWER	0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 67,222		
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)		<input type="checkbox"/>
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)		1.4% (1)
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)		OO

(1) This percentage is calculated based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013.

1	NAME OF REPORTING PERSONS Leder Laboratories, Inc.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)		(a) <input type="checkbox"/> (b) <input type="checkbox"/>
3	SEC USE ONLY		
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) AF		
5	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e)		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER	12,501
	8	SHARED VOTING POWER	0
	9	SOLE DISPOSITIVE POWER	12,501
	10	SHARED DISPOSITIVE POWER	0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,501		
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)		<input type="checkbox"/>
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)		0.3% (1)
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)		CO

(1) This percentage is calculated based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013.

1	NAME OF REPORTING PERSONS Starling Pharmaceuticals, Inc.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)		(a) <input type="checkbox"/> (b) <input type="checkbox"/>
3	SEC USE ONLY		
4	SOURCE OF FUNDS (SEE INSTRUCTIONS)		AF
5	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e)		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER	12,501
	8	SHARED VOTING POWER	0
	9	SOLE DISPOSITIVE POWER	12,501
	10	SHARED DISPOSITIVE POWER	0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,501		
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)		<input type="checkbox"/>
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)		0.3% (1)
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)		CO

(1) This percentage is calculated based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013.

Item 1. Security and Issuer.

This Amendment No. 1 to Schedule 13D (this "Statement") relates to the common stock, par value \$.001 per share (the "Common Stock"), Tonix Pharmaceuticals Holding Corp., a Nevada Corporation (the "Issuer"). This Statement supplementally amends the initial statement on Schedule 13D, filed on May 23, 2013 (the "Initial Statement") by the Reporting Persons (as defined herein). This Amendment No. 1 is being filed by the Reporting Persons to report that, as a result of recent transactions in the Common Stock, the total shares beneficial ownership by the Reporting Persons has increased but the percentage of beneficial ownership by the Reporting Persons has decreased by more than one percent of the outstanding shares of Common Stock of the Issuer.

Item 2. Identity and Background.

No material change.

Item 3. Source and Amount of Funds or Other Consideration.

Item 3 of the Initial Statement is hereby amended by adding the following:

Public Offering Purchases

On August 14, 2013, Dr. Lederman purchased 11,765 Units at a price of \$4.25 per Unit in connection with a public offering by the Issuer. Each Unit consisted of one share of common stock and one Series A Warrant exercisable immediately for one share of common stock at an exercise price of \$4.25 per share

Item 4. Purpose of Transaction.

No material change.

Item 5. Interest in Securities of the Issuer.

Item 5 of the Initial Statement is hereby replaced in its entirety with the following:

Dr. Lederman beneficially owns 516,509 shares of Issuer common stock, comprised of (i) 50,074 shares of common stock owned by Dr. Lederman, (ii) 11,765 shares of common stock issuable to Dr. Lederman upon exercise of warrants that are currently exercisable, (iii) 16,527 shares of common stock issuable to Dr. Lederman upon exercise of options that are vested or will vest within 60 days of this Statement of Beneficial Ownership on Schedule 13D, (iv) 184,628 shares of common stock owned by Lederman & Co, (v) 104,500 shares of common stock issuable to Lederman & Co upon exercise of warrants that are currently exercisable, (vi) 32,457 shares of common stock owned by L&L Technologies, (vii) 24,334 shares of common stock issuable to L&L Technologies upon exercise of warrants that are currently exercisable, (viii) 58,972 shares of common stock owned by Targent Pharmaceuticals, (ix) 8,250 shares of common stock issuable to Targent Pharmaceuticals upon exercise of warrants that are currently exercisable, (x) 4,167 shares of common stock owned by Leder Laboratories, (xi) 8,334 shares of common stock issuable to Leder Laboratories upon exercise of warrants that are currently exercisable, (xii) 4,167 shares of common stock owned by Starling Pharmaceuticals, and (xiii) 8,334 shares of common stock issuable to Starling Pharmaceuticals upon exercise of warrants that are currently exercisable. Dr. Lederman is the Managing Member of Lederman & Co and Targent Pharmaceuticals, the Manager of L&L Technologies and the Chairman of Leder Laboratories and Starling Pharmaceuticals. Based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013, the shares of the Issuer's common stock beneficially owned by Dr. Lederman constitute approximately 10.2% of the common stock of the Issuer as calculated in accordance with Rule 13d-3(d)(1).

Lederman & Co beneficially owns 289,128 shares of Issuer common stock, comprised of (i) 184,628 shares of common stock owned by Lederman & Co and (ii) 104,500 shares of common stock issuable to Lederman & Co upon exercise of warrants that are currently exercisable. Based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013, the shares of the Issuer's common stock beneficially owned by Lederman and Co constitute approximately 5.8% of the common stock of the Issuer as calculated in accordance with Rule 13d-3(d)(1).

L&L Technologies beneficially owns 56,791 shares of Issuer common stock, comprised of (i) 32,457 shares of common stock owned by L&L Technologies and (ii) 24,334 shares of common stock issuable to L&L Technologies upon exercise of warrants that are currently exercisable. Based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013, the shares of the Issuer's common stock beneficially owned by L&L Technologies constitute approximately 1.2% of the common stock of the Issuer as calculated in accordance with Rule 13d-3(d)(1).

Targent Pharmaceuticals beneficially owns 67,222 shares of Issuer common stock, comprised of (i) 58,972 shares of common stock owned by Targent Pharmaceuticals and (ii) 8,250 shares of common stock issuable to Targent Pharmaceuticals upon exercise of warrants that are currently exercisable. Based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013, the shares of the Issuer's common stock beneficially owned by Targent Pharmaceuticals constitute approximately 1.4% of the common stock of the Issuer as calculated in accordance with Rule 13d-3(d)(1).

Leder Laboratories beneficially owns 289,128 shares of Issuer common stock, comprised of (i) 4,167 shares of common stock owned by Leder Laboratories and (ii) 8,334 shares of common stock issuable to Leder Laboratories upon exercise of warrants that are currently exercisable. Based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013, the shares of the Issuer's common stock beneficially owned by Leder Laboratories constitute approximately 0.3% of the common stock of the Issuer as calculated in accordance with Rule 13d-3(d)(1).

Starling Pharmaceuticals beneficially owns 289,128 shares of Issuer common stock, comprised of (i) 4,167 shares of common stock owned by Starling Pharmaceuticals, and (ii) 8,334 shares of common stock issuable to Starling Pharmaceuticals upon exercise of warrants that are currently exercisable. Based upon 4,877,490 shares of the Issuer's common stock outstanding (as of August 14, 2013), as set forth in the Issuer's prospectus filed pursuant to Section 424(b)(5) as filed with the Securities and Exchange Commission on August 9, 2013, the shares of the Issuer's common stock beneficially owned by Starling Pharmaceuticals constitute approximately 0.3% of the common stock of the Issuer as calculated in accordance with Rule 13d-3(d)(1).

The following table sets forth the number of shares of common stock as to which the Reporting Persons have (i) the sole power to vote or direct the voting of the shares, (ii) the sole power to dispose or to direct the disposition of the shares or (iii) shared power to vote or direct the vote or dispose or direct disposition of the shares:

Reporting Person	Sole Voting Power	Shared Voting Power	Sole Dispositive Power	Shared Dispositive Power
Dr. Lederman	459,718	56,791	459,718	56,791
Lederman & Co	289,128	0	289,128	0
L&L Technologies	0	56,791	0	56,791
Targent Pharmaceuticals	67,222	0	67,222	0
Leder Laboratories	12,501	0	12,501	0
Starling Pharmaceuticals	12,501	0	12,501	0

The voting power and the dispositive power of the shares beneficially owned by L&L Technologies are shared with Dr. Donald Landry, another director of the Issuer.

Except as set out above, the Reporting Persons have not effected any other transactions in any securities of the Issuer in the past 60 days.

Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer.

No material change.

Item 7. Material to be Filed as Exhibits.

1. Joint Filing Agreement, dated as of August 15, 2013, by and among Seth Lederman, Lederman & Co., LLC, L&L Technologies, LLC, Targent Pharmaceuticals, LLC, Leder Laboratories, Inc. and Starling Pharmaceuticals, Inc. (filed herewith).

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 accurate.

Dated as of August 15, 2013

LEDERMAN & CO., LLC

By: /s/ SETH LEDERMAN

Name: Seth Lederman

Title: Managing Member

L&L TECHNOLOGIES, LLC

By: /s/ SETH LEDERMAN

Name: Seth Lederman

Title: Member

TARGET PHARMACEUTICALS, LLC

By: /s/ SETH LEDERMAN

Name: Seth Lederman

Title: Managing Member

LEDER LABORATORIES, INC.

By: /s/ SETH LEDERMAN

Name: Seth Lederman

Title: Chairman

STARLING PHARMACEUTICALS, INC.

By: /s/ SETH LEDERMAN

Name: Seth Lederman

Title: Chairman

/s/ SETH LEDERMAN

Seth Lederman

JOINT FILING AGREEMENT

This Joint Filing Agreement is filed as an exhibit to Schedule 13D being filed by Seth Lederman, Lederman & Co., LLC, L&L Technologies, LLC, Targent Pharmaceuticals, LLC, Leder Laboratories, Inc. and Starling Pharmaceuticals, Inc. in compliance with Rule 13d-1(k) of the Securities and Exchange Commission, which requires an agreement in writing indicating that the Schedule 13D to which this Agreement is attached is filed on behalf of the below-named entities, that they are each responsible for the timely filing of the Schedule 13D and any amendments thereto and for the completeness and accuracy of the information concerning such persons contained therein.

This Joint Filing Agreement may be executed in counterparts, each of which shall be deemed to be an original instrument, but all of such counterparts together shall constitute one agreement.

In evidence thereof, the undersigned, being duly authorized, hereby execute this Joint Filing Agreement as of August 15, 2013.

LEDERMAN & CO., LLC

By: /s/ SETH LEDERMAN

Name: Seth Lederman

Title: Managing Member

L&L TECHNOLOGIES, LLC

By: /s/ SETH LEDERMAN

Name: Seth Lederman

Title: Member

TARGET PHARMACEUTICALS, LLC

By: /s/ SETH LEDERMAN

Name: Seth Lederman

Title: Managing Member

LEDER LABORATORIES, INC.

By: /s/ SETH LEDERMAN

Name: Seth Lederman

Title: Chairman

STARLING PHARMACEUTICALS, INC.

By: /s/ SETH LEDERMAN

Name: Seth Lederman

Title: Chairman

/s/ SETH LEDERMAN

Seth Lederman
