EPIX Pharmaceuticals, Inc. Form S-4 April 25, 2006

As filed with the Securities and Exchange Commission on April 25, 2006 Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

Form S-4 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

EPIX PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware283504-3030815(State or other jurisdiction of incorporation or organization)(Primary Standard Industrial Classification Code Number)(I.R.S. Employer Identification No.)

161 First Street Cambridge, Massachusetts 02142 (617) 250-6000

(Address, including zip code, and telephone number, including area code, of registrant s principal executive offices)

Michael J. Astrue
Interim Chief Executive Officer
EPIX Pharmaceuticals, Inc.
161 First Street
Cambridge, Massachusetts 02142
(617) 250-6000

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

William T. Whelan, Esq.
Daniel T. Kajunski, Esq.
Mintz, Levin, Cohn,
Ferris, Glovsky and Popeo P.C.
One Financial Center
Boston, Massachusetts 02111
(617) 542-6000

Michael G.
Kauffman, M.D., Ph.D.
Predix Pharmaceuticals Holdings,
Inc.
4 Maguire Road
Lexington, Massachusetts 02421
(781) 372-3260

Lawrence S. Wittenberg, Esq. Edward A. King, Esq. Goodwin Procter LLP Exchange Place Boston, Massachusetts 02109 (617) 570-1000

Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective and upon completion of the merger described in the enclosed joint proxy statement/ prospectus.

If the securities being registered on this Form are to be offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box. o

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price per Share	Proposed Maximum Aggregate Offering Price(2)	Amount of Registration Fee(2)
Common Stock, \$.01 par value per share	33,275,484	N/A	\$914,159	\$97.82

- (1) Represents the maximum number of shares of common stock, par value \$.01 per share, of the Registrant estimated to be issuable upon the completion of the proposed merger of Predix Pharmaceuticals Holdings, Inc. (Predix) with and into EPIX Delaware, Inc., a wholly-owned subsidiary of the Registrant, determined by multiplying 1.248509 by 18,642,624 (which is the estimated number of fully-diluted shares of Predix on the date hereof). Also includes 10,000,000 shares of the Registrant s common stock that may be issuable upon the achievement of the milestone events as described in the joint proxy statement/ prospectus, based on the closing sale price of the Registrant s common stock on March 31, 2006, the last full trading day immediately preceding the public announcement of the merger.
- (2) Estimated solely for purposes of calculation of the registration fee in accordance with Rules 457(c) and (f) of the Securities Act of 1933, as amended. Predix is a privately-held corporation and there is no market for its securities. In addition, Predix has an accumulated deficit. Therefore, pursuant to Rule 457(f)(2) under the Securities Act of 1933, as amended, the proposed maximum offering price is based upon one-third of the aggregate par value of Predix s capital stock being acquired in the proposed merger, which is \$0.01 (computed as of April 24, 2006, the latest practicable date prior to the date of filing this Registration Statement).

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date (i) until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or (ii) until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this joint proxy statement/ prospectus is not complete and may be changed. The securities being offered by the use of this joint proxy statement/ prospectus may not be issued until the registration statement filed with the Securities and Exchange Commission, of which this proxy statement and prospectus is a part, is declared effective. This joint proxy statement/ prospectus is not an offer to sell these securities nor a solicitation of any offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY COPY SUBJECT TO COMPLETION, DATED APRIL 25, 2006 ANNUAL AND SPECIAL MEETINGS OF STOCKHOLDERS MERGER PROPOSED YOUR VOTE IS VERY IMPORTANT

The boards of directors of EPIX Pharmaceuticals, Inc. (EPIX) and Predix Pharmaceuticals Holdings, Inc. (Predix) have approved a merger combining EPIX and Predix.

If the merger is consummated, Predix will be merged with and into a wholly-owned subsidiary of EPIX. The terms of the merger agreement provide for the issuance of shares of EPIX common stock to Predix stockholders in exchange for all of the outstanding shares of Predix. At the effective time of the merger, EPIX stockholders will retain approximately 53%, and the former Predix stockholders will own approximately 47%, of the outstanding shares of EPIX s common stock as more fully described in the joint proxy statement/ prospectus. EPIX will also assume all of Predix s stock options and warrants outstanding at the time of the merger. In addition, EPIX will make a milestone payment of \$35 million to Predix stockholders, option holders and warrant holders upon the occurrence of certain events. EPIX may elect to make the milestone payment in cash or in shares of EPIX common stock, to the extent that the aggregate amount of EPIX common stock as a result of such milestone payment does not exceed 49.99% of the outstanding shares of EPIX common stock immediately after such milestone payment, when combined with all shares of EPIX common stock issued in the merger and issuable upon exercise of all Predix options and warrants assumed by EPIX in the merger. EPIX common stock is listed on The NASDAQ National Market under the symbol EPIX. On April 24, 2006, the last trading day before the date of this joint proxy statement/ prospectus, the closing sale price of EPIX common stock was \$3.92 per share. The merger is intended to qualify for federal income tax purposes as a reorganization under the provisions of Section 368 of the Internal Revenue Code of 1986, as amended.

Stockholders of EPIX will be asked, at EPIX s annual meeting of stockholders, among other proposals, to approve the merger, to approve an amendment to EPIX s restated certificate of incorporation and to approve the issuance of shares of EPIX common stock to the stockholders of Predix in the merger. Stockholders of Predix will be asked, at Predix s special meeting of stockholders, to approve and adopt the merger agreement and to approve the merger.

The dates, times and places of the special meetings are as follows:

For EPIX stockholders:
, 2006
10:00 a.m., local time
Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, Massachusetts 02111

For Predix stockholders: , 2006 9:00 a.m., local time Goodwin Procter LLP Exchange Place Boston, Massachusetts 02109

This joint proxy statement/ prospectus provides you with information about EPIX, Predix and the proposed merger. You may obtain other information about EPIX and Predix from documents filed with the Securities and Exchange Commission. We encourage you to carefully read the entire joint proxy statement/ prospectus.

Michael J. Astrue Interim Chief Executive Officer EPIX Pharmaceuticals, Inc. Michael G. Kauffman, M.D., Ph.D. Chief Executive Officer Predix Pharmaceuticals Holdings, Inc.

FOR A DISCUSSION OF SIGNIFICANT MATTERS THAT SHOULD BE CONSIDERED BEFORE VOTING AT THE STOCKHOLDER MEETINGS, SEE <u>RISK FACTORS</u> BEGINNING ON PAGE 19. NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES REGULATORS HAVE APPROVED OR DISAPPROVED THE EPIX COMMON STOCK TO BE ISSUED IN THE MERGER OR DETERMINED WHETHER THIS JOINT PROXY STATEMENT/ PROSPECTUS IS ACCURATE OR ADEQUATE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

This joint proxy statement/ prospectus is dated , 2006, and is first being mailed to stockholders of EPIX and Predix on or about , 2006.

THIS JOINT PROXY STATEMENT/ PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

ADDITIONAL INFORMATION

This joint proxy statement/ prospectus incorporates important business and financial information about EPIX and Predix from other documents that are not included in or delivered with the joint proxy statement/ prospectus. This information is available to you without charge upon your written or oral request. You can obtain the documents incorporated by reference in this joint proxy statement/ prospectus by requesting them in writing or by telephone or over the Internet from the appropriate company at one of the following addresses:

EPIX Pharmaceuticals, Inc.

Attn: Investor Relations

161 First Street

Cambridge, Massachusetts 02142

(617) 250-6000

E-mail: ahedison@epixpharma.com

Or:

Predix Pharmaceuticals Holdings, Inc.

Attn: Investor Relations

4 Maguire Road

Lexington, Massachusetts 02421

(781) 372-3260

E-mail: investors@predixpharm.com

IF YOU WOULD LIKE TO REQUEST ANY DOCUMENTS, PLEASE DO SO BY , 2006, THE DATE THAT IS FIVE BUSINESS DAYS BEFORE THE ANNUAL AND SPECIAL MEETINGS, IN ORDER TO RECEIVE THEM BEFORE THE ANNUAL AND SPECIAL MEETINGS.

See Where You Can Find More Information beginning on page 218.

EPIX Pharmaceuticals 161 First Street Cambridge, Massachusetts 02142 (617) 250-6000 NOTICE OF ANNUAL MEETING OF EPIX STOCKHOLDERS TO BE HELD ON . 2006

To the Stockholders of EPIX Pharmaceuticals, Inc:

On behalf of the board of directors of EPIX Pharmaceuticals, Inc, a Delaware corporation, we are pleased to deliver this joint proxy statement/ prospectus for the proposed merger combining EPIX and Predix Pharmaceuticals Holdings, Inc., a Delaware corporation. An annual meeting of stockholders of EPIX will be held on 2006 at 10:00 a.m., local time, at the offices of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., One Financial Center, Boston, Massachusetts, 02111 for the following purposes:

- 1. To consider and vote upon the issuance of shares of EPIX common stock in the merger as contemplated by the Agreement and Plan of Merger, dated as of April 3, 2006, by and among EPIX Pharmaceuticals, Inc., EPIX Delaware, Inc., a wholly-owned subsidiary of EPIX, and Predix Pharmaceuticals Holdings, Inc., and approve the merger of Predix Pharmaceuticals Holdings, Inc. with and into EPIX Delaware, Inc.;
- 2. To approve an amendment to EPIX s amended and restated certificate of incorporation to increase the number of authorized shares of common stock from 40,000,000 shares to 100,000,000 shares, which represents an additional 60,000,000 shares, as described in the joint proxy statement/ prospectus;
- 3. To elect two directors for a three-year term to expire at the 2009 annual meeting of stockholders; provided, however, that, if the merger is completed, the EPIX board of directors will consist of the nine persons identified in the joint proxy statement/ prospectus;
- 4. To ratify the selection of Ernst & Young LLP as EPIX s independent registered public accounting firm for the fiscal year ending December 31, 2006;
- 5. To consider and vote on a proposal to approve the adjournment of the annual meeting, if necessary, to solicit additional proxies, in the event that there are not sufficient votes at the time of the annual meeting to approve Proposal Nos. 1 and 2; and
- 6. To transact such other business as may properly come before the annual meeting or any adjournment or postponement thereof.

The board of directors of EPIX has fixed , 2006 as the record date for the determination of stockholders entitled to notice of, and to vote at, the annual meeting and any adjournment or postponement thereof. Only holders of record of shares of EPIX common stock at the close of business on the record date are entitled to notice of, and to vote at, the annual meeting. At the close of business on the record date, EPIX had shares of common stock outstanding and entitled to vote.

Your vote is important. The affirmative vote of the holders of a majority of the shares present at the EPIX annual meeting is required for approval of Proposal Nos. 1, 4, 5 and 6 above. The affirmative vote of the holders of a majority of the outstanding common stock on the record date is required for approval of Proposal No. 2. The affirmative vote of a plurality of the votes cast at the EPIX annual meeting is required for approval of Proposal No. 3. Even if you plan to attend the annual meeting in person, we request that you sign and return the enclosed proxy and thus ensure that your shares will be represented at the annual meeting if you are unable to attend. If you sign, date and mail your proxy card without indicating how you wish to vote, your proxy will be counted as a vote in favor of Proposal Nos. 1 through 6. If you fail to return your proxy card, the effect will be a vote against the adoption of Proposal No. 2 and your shares will not be counted for

purposes of determining whether a quorum is present at the annual meeting. If you do attend the EPIX annual meeting and wish to vote in person, you may withdraw your proxy and vote in person.

By Order of the Board of Directors,

Michael J. Astrue Interim Chief Executive Officer EPIX Pharmaceuticals, Inc.

Cambridge, Massachusetts , 2006

THE EPIX BOARD OF DIRECTORS HAS DETERMINED AND BELIEVES THAT THE ISSUANCE OF SHARES OF EPIX COMMON STOCK IN THE MERGER IS ADVISABLE TO, AND IN THE BEST INTERESTS OF, EPIX AND ITS STOCKHOLDERS AND HAS APPROVED SUCH ISSUANCE. THE EPIX BOARD OF DIRECTORS RECOMMENDS THAT EPIX STOCKHOLDERS VOTE FOR PROPOSAL NO. 1 TO APPROVE THE ISSUANCE OF SHARES OF EPIX COMMON STOCK IN THE MERGER AND APPROVE THE MERGER.

THE EPIX BOARD OF DIRECTORS HAS DETERMINED AND BELIEVES THAT AN AMENDMENT TO EPIX S RESTATED CERTIFICATE OF INCORPORATION TO INCREASE THE NUMBER OF AUTHORIZED SHARES OF COMMON STOCK FROM 40,000,000 SHARES TO 100,000,000 SHARES, WHICH REPRESENTS AN ADDITIONAL 60,000,000 SHARES, IS ADVISABLE TO, AND IN THE BEST INTERESTS OF, EPIX AND ITS STOCKHOLDERS AND HAS APPROVED SUCH AMENDMENT. THE EPIX BOARD OF DIRECTORS RECOMMENDS THAT EPIX STOCKHOLDERS VOTE FOR PROPOSAL NO. 2 TO APPROVE AN AMENDMENT TO EPIX S RESTATED CERTIFICATE OF INCORPORATION TO INCREASE THE NUMBER OF AUTHORIZED SHARES OF COMMON STOCK FROM 40,000,000 SHARES TO 100,000,000 SHARES. THE APPROVAL OF PROPOSAL NO. 2 IS NECESSARY TO ENABLE EPIX TO ISSUE THE REQUIRED NUMBER OF SHARES OF EPIX COMMON STOCK TO PREDIX STOCKHOLDERS, OPTION HOLDERS AND WARRANT HOLDERS IN CONNECTION WITH THE MERGER.

THE EPIX BOARD OF DIRECTORS HAS DETERMINED AND BELIEVES THAT THE ELECTION OF TWO DIRECTORS FOR A THREE-YEAR TERM TO EXPIRE AT THE 2009 ANNUAL MEETING OF STOCKHOLDERS IS ADVISABLE TO, AND IN THE BEST INTERESTS OF, EPIX AND ITS STOCKHOLDERS AND HAS APPROVED AND ADOPTED THE PROPOSAL. THE EPIX BOARD OF DIRECTORS RECOMMENDS THAT EPIX STOCKHOLDERS VOTE FOR PROPOSAL NO. 3 TO ELECT TWO DIRECTORS FOR A THREE-YEAR TERM TO EXPIRE AT THE 2009 ANNUAL MEETING OF STOCKHOLDERS; PROVIDED, HOWEVER, THAT, IF THE MERGER IS COMPLETED, THE EPIX BOARD OF DIRECTORS WILL CONSIST OF THE NINE PERSONS IDENTIFIED IN THE ACCOMPANYING JOINT PROXY STATEMENT/ PROSPECTUS

THE EPIX BOARD OF DIRECTORS HAS DETERMINED THAT THE RATIFICATION OF THE SELECTION OF ERNST & YOUNG LLP AS EPIX S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 31, 2006 IS ADVISABLE TO, AND IN THE BEST INTERESTS OF, EPIX AND ITS STOCKHOLDERS AND HAS APPROVED SUCH RATIFICATION. THE EPIX BOARD OF DIRECTORS RECOMMENDS THAT EPIX STOCKHOLDERS VOTE FOR PROPOSAL NO. 4 TO RATIFY THE SELECTION OF ERNST & YOUNG LLP AS EPIX S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 31, 2006.

THE EPIX BOARD OF DIRECTORS HAS DETERMINED AND BELIEVES THAT ADJOURNING THE EPIX ANNUAL MEETING, IF NECESSARY, IF A QUORUM IS PRESENT, TO SOLICIT ADDITIONAL PROXIES IF THERE ARE NOT SUFFICIENT VOTES IN FAVOR OF PROPOSAL NOS. 1 AND 2 IS ADVISABLE TO, AND IN THE BEST INTERESTS OF, EPIX AND ITS STOCKHOLDERS AND HAS APPROVED AND ADOPTED THE PROPOSAL. THE EPIX BOARD OF DIRECTORS RECOMMENDS THAT EPIX STOCKHOLDERS VOTE FOR PROPOSAL NO. 5 TO ADJOURN THE EPIX ANNUAL MEETING, IF NECESSARY, IF A QUORUM IS PRESENT, TO SOLICIT ADDITIONAL PROXIES IF THERE ARE NOT SUFFICIENT VOTES IN FAVOR OF PROPOSAL NOS. 1 AND 2.

4 Maguire Road Lexington, Massachusetts 02421 (781) 372-3260 NOTICE OF SPECIAL MEETING OF PREDIX STOCKHOLDERS TO BE HELD ON , 2006

To the Stockholders of Predix Pharmaceuticals Holdings, Inc.:

On behalf of the board of directors of Predix Pharmaceuticals Holdings, Inc., a Delaware corporation, we are pleased to deliver this joint proxy statement/ prospectus for the proposed merger combining EPIX Pharmaceuticals, Inc. and Predix. A special meeting of stockholders of Predix will be held on , 2006 at 9:00 a.m., local time, at the offices of Goodwin Procter LLP, Exchange Place, Boston, Massachusetts, 02109 for the following purposes:

- 1. To consider and vote on a proposal to approve and adopt the Agreement and Plan of Merger, dated as of April 3, 2006, by and among EPIX Pharmaceuticals, Inc., EPIX Delaware, Inc., a wholly-owned subsidiary of EPIX, and Predix Pharmaceuticals Holdings, Inc., and approve the merger of Predix Pharmaceuticals Holdings, Inc. with and into EPIX Delaware, Inc.;
- 2. To consider and vote on a proposal to approve the adjournment of the special meeting, if necessary, to solicit additional proxies, in the event that there are not sufficient votes at the time of the special meeting to approve and adopt the merger agreement and to approve the merger; and
- 3. To transact such other business as may properly come before the special meeting or any adjournment or postponement thereof.

The board of directors of Predix has fixed , 2006 as the record date for the determination of stockholders entitled to notice of, and to vote at, the special meeting and any adjournment or postponement thereof. Only holders of record of shares of Predix common stock and holders of record of shares of Predix preferred stock at the close of business on the record date are entitled to notice of, and to vote at, the special meeting. Holders of Predix preferred stock vote on an as-converted to Predix common stock basis. At the close of business on the record date, Predix had outstanding and entitled to vote (a) 1,044,059 shares of common stock and (b) 273,203,492 shares of preferred stock, consisting of 76,771,672 shares of Series AB preferred stock, which are convertible into 4,265,060 shares of Predix common stock and 196,431,820 shares of Series C preferred stock, which are convertible into 10,912,838 shares of Predix common stock.

Your vote is important. The affirmative vote of the holders of: (a) a majority of the common stock and the preferred stock voting as a single class (on an as-converted to Predix common stock basis); (b) 60% of the preferred stock voting as a single class (on an as-converted to Predix common stock basis), and (c) 66²/3% of the shares of the Series C preferred stock (on an as-converted to Predix common stock basis), in each case, outstanding on the record date, is required for approval of Proposal No. 1 above. The affirmative vote of the holders of a majority of the outstanding common stock and the preferred stock voting as a single class on an as-converted to Predix common stock basis on the record date is required for approval of Proposal Nos. 2 and 3 above. Even if you plan to attend the special meeting in person, we request that you sign and return the enclosed proxy and thus ensure that your shares will be represented at the special meeting if you are unable to attend. If you sign, date and mail your proxy card without indicating how you wish to vote, your proxy will be counted as a vote in favor of the approval and adoption of the merger agreement and the approval of the merger and an adjournment of the Predix special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of Proposal No. 1. If you fail to return your proxy card,

the effect will be a vote against the approval and adoption of the merger agreement and the approval of the merger and your shares will not be counted for purposes of determining whether a quorum is present at the Predix special meeting. If you do attend the Predix special meeting and wish to vote in person, you may withdraw your proxy and vote in person.

By Order of the Board of Directors,

Michael G. Kauffman, M.D., Ph.D. President and Chief Executive Officer Predix Pharmaceuticals Holdings, Inc.

Lexington, Massachusetts , 2006

THE PREDIX BOARD OF DIRECTORS HAS DETERMINED AND BELIEVES THAT THE MERGER IS ADVISABLE TO, AND IN THE BEST INTERESTS OF, PREDIX AND ITS STOCKHOLDERS AND HAS APPROVED THE MERGER AND THE MERGER AGREEMENT. THE PREDIX BOARD OF DIRECTORS RECOMMENDS THAT PREDIX STOCKHOLDERS VOTE FOR PROPOSAL NO. 1 TO APPROVE AND ADOPT THE MERGER AGREEMENT AND TO APPROVE THE MERGER AND FOR PROPOSAL NO. 2 TO ADJOURN THE SPECIAL MEETING, IF NECESSARY, IF A QUORUM IS PRESENT, TO SOLICIT ADDITIONAL PROXIES IF THERE ARE NOT SUFFICIENT VOTES IN FAVOR OF PROPOSAL NO. 1.

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stockholders of Predix Pharmaceuticals Holdings, Inc.	B-1
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Annex D Relevant Sections of the General Corporation Law of the State of Delaware	D-1
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QUESTIONS AND ANSWERS ABOUT THE MERGER

The following section provides answers to frequently asked questions about the effect of the merger on the holders of EPIX common stock and Predix common stock, preferred stock, warrants and stock options. EPIX and Predix urge you to read carefully the remainder of this joint proxy statement/ prospectus, including the documents attached to this joint proxy statement/ prospectus, because the information in this section does not provide all the information that might be important to you regarding the merger and the other matters being considered at the EPIX annual meeting and the Predix special meeting.

Q: Why are EPIX and Predix proposing the merger? (See pages 63 and 72)

A: EPIX and Predix are proposing the merger because they believe the resulting combined company will be a stronger, more diverse company with more growth potential than either company would have separately. EPIX and Predix believe that the merger may result in a number of benefits, including:

a broader, more balanced portfolio of product candidates, with significant market potential;

the opportunity for each company s stockholders to participate in the potential growth of the combined company after the merger; and

a seasoned management team and significant financial resources.

Q: Why am I receiving this joint proxy statement/ prospectus?

A: You are receiving this joint proxy statement/ prospectus because you have been identified as a stockholder of either EPIX or Predix, and thus you are entitled to vote at EPIX s annual meeting or Predix s special meeting, as the case may be. This document serves as both a joint proxy statement of EPIX and Predix, used to solicit proxies for the stockholder meetings, and as a prospectus of EPIX, used to offer shares of EPIX common stock in exchange for shares of Predix common stock and preferred stock pursuant to the terms of the merger agreement. This document contains important information about the merger and the stockholder meetings of EPIX and Predix, and you should read it carefully.

Q: What percentage of EPIX will EPIX s current stockholders and the former Predix stockholders own collectively immediately following the merger? (See page 57)

A: At the effective time of the merger, the current EPIX stockholders will collectively own approximately 53% of the outstanding shares of the combined company and the former Predix stockholders will collectively own approximately 47% of the outstanding shares of the combined company, based on the number of shares of EPIX common stock and Predix common stock and preferred stock outstanding as of the date of the merger agreement.

Q: What will a Predix stockholder receive in exchange for Predix stock in the merger? (See pages 57 and 80)

A: Each Predix stockholder will receive 1.248509 shares of EPIX common stock for each share of Predix common stock or preferred stock (on an as-converted to Predix common stock basis) that they own, and cash in lieu of fractional shares. We refer to this as the exchange ratio.

In addition, EPIX will make a milestone payment to Predix stockholders, option holders and warrant holders in an aggregate amount of \$35 million upon the occurrence of certain events. EPIX may elect to make the milestone payment in cash or shares of EPIX common stock, or any combination thereof. The milestone payment will be allocated and paid to each holder of Predix shares, options and warrants at the time of the merger, on a pro rata basis assuming that each Predix warrant and option (whether or not vested) was exercised in full immediately prior to the merger.

In no event will the shares of EPIX common stock issuable at the effective time of the merger, including the shares of EPIX common stock issuable upon exercise of Predix options and warrants assumed by EPIX in the merger, exceed 49.99% of the outstanding EPIX common stock immediately

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after the effective time of the merger. In addition, in no event may the milestone be paid in shares of EPIX common stock to the extent that such shares would exceed 49.99% of the outstanding shares of EPIX common stock immediately after such milestone payment, when combined with all shares of EPIX common stock issued in the merger and issuable upon exercise of all Predix options and warrants assumed by EPIX in the merger.

Q: What events will trigger the milestone payment from EPIX? (See pages 57 and 80)

A: Predix stockholders, option holders and warrant holders will receive the milestone payment within 90 days following the occurrence, as determined by the non-Predix members of the combined company s board of directors, of any of the following events on or before June 30, 2008:

receipt of statistically significant final results from a randomized, placebo- or active comparator controlled, double-blinded Phase II or Phase III clinical trial of:

PRX-00023 for the treatment of generalized anxiety disorder, or GAD, depression, attention-deficit hyperactivity disorder, or ADHD, or other neuropsychiatric disorder with at least 100 patients;

PRX-03140 for the treatment of Alzheimer s disease or other cognitive disorders with at least 60 patients;

PRX-08066 for the treatment of pulmonary artery hypertension, or PAH, chronic obstructive pulmonary disease, or COPD, or a different indication with at least 60 patients;

PRX-07034 for the treatment of obesity, cognitive disorders or a different indication with at least 60 patients; or

entering into a strategic partnership for any Predix drug candidate, which provides milestone and research funding payments of more than \$50 million, of which \$20 million must be in unrestricted cash received by June 30, 2008 through non-refundable license fees, research funding payments, and/or premiums paid in connection with an equity investment by the strategic partner within 60 days following entry into the strategic partnership.

Q: If triggered, when will the milestone payment be made? (See pages 57 and 80)

A: The milestone payment will be paid within 90 days after the achievement of a milestone event, at the option of the non-Predix members of the combined company s board of directors, either:

in cash, shares of EPIX common stock or any combination thereof with such shares being valued based on the five-day average closing price of EPIX common stock on The NASDAQ National Market ending on the trading day that is ten days prior to the milestone payment; or

\$20 million payable in accordance with the preceding bullet and \$15 million payable on the date that is 12 months after the payment of the initial \$20 million in shares of EPIX common stock, with such shares being valued based on 75% of the 30-day average closing price of EPIX common stock on The NASDAQ National Market ending on the trading day that is ten days prior to the payment date. If, as a result of the 49.99% limitation described below, the entire \$15 million payment cannot be made in shares of EPIX common stock, the balance will be paid in cash plus interest calculated from the milestone payment date at the rate of 10% per year.

In no event may the milestone be paid in shares of EPIX common stock to the extent that such shares would exceed 49.99% of the outstanding shares of EPIX common stock immediately after such milestone payment, when combined with all shares of EPIX common stock issued in the merger and issuable upon exercise of all Predix options and warrants assumed by EPIX in the merger. Additionally, the milestone will be paid in cash to the holders of Predix options and warrants assumed by EPIX in the merger.

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Q: Who will be the directors of EPIX following the merger? (See page 93)

A: Following the merger, the board of directors of EPIX will consist of nine members, of which five will be designated by EPIX and four will be designated by Predix. The following individuals are expected to comprise the EPIX board of directors after the merger:

Christopher F.O. Gabrieli, Chairman

Patrick J. Fortune, Ph.D.

Frederick Frank

Michael Gilman, Ph.D.

Michael G. Kauffman, M.D., Ph.D.

Mark Leuchtenberger

Gregory D. Phelps

Ian F. Smith, CPA, ACA

In addition, the board of directors of EPIX after the merger will have an additional member designated by EPIX who has not yet been identified.

Q: Who will manage EPIX following the merger? (See page 93)

A: Following the merger, the management team and key employees of EPIX will be comprised of certain key employees and members of both EPIX s and Predix s respective management teams prior to the merger and is expected to include the following individuals:

Name	Position in the Combined Company	Current Position
Michael G. Kauffman, M.D., Ph.D.	Chief Executive Officer and Director	Predix s President and Chief
	(principal executive officer)	Executive Officer
Andrew C.G. Uprichard, M.D.	President	EPIX s President and Chief
Kimberlee C. Drapkin, CPA	Chief Financial Officer (principal	Operating Officer Predix s Chief Financial Officer
Kimbenee C. Diapkin, Ci A	financial officer)	Tredix s emer rinancial officer
Oren Becker, Ph.D.	Chief Scientific Officer	Predix s Chief Scientific Officer
Stephen R. Donahue M.D.	Vice President of Clinical &	Predix s Vice President of
	Regulatory Affairs	Clinical and Regulatory Affairs
Philip Graham, Ph.D.	Vice President of Product	EPIX s Vice President of
	Management and Imaging	Program Management
Thomas McMurry, Ph.D.	Vice President of Imaging Research	EPIX s Vice President of
		Research
Silvia Noiman, Ph.D.	Senior Vice President of Pipeline	Predix s Senior Vice President
	Management, General Manager Israel	of Pipeline Management,
		General Manager Israel
Robert Pelletier, CPA	Executive Director of Finance	EPIX s Executive Director of
	(principal accounting officer)	Finance
Chen Schor, CPA	Chief Business Officer	Predix s Chief Business Officer
Sharon Shacham, Ph.D.	Vice President of Preclinical	Predix s Vice President of
	Development and Product Leadership	Preclinical Development and
		Product Leadership
Brenda Sousa	Vice President of Human Resources	EPIX s Vice President of Human
		Resources

- Q: What stockholder approval is needed to complete the merger? (See pages 52 and 55)
- A: To consummate the merger, EPIX stockholders must approve (a) the issuance of shares of EPIX common stock in the merger and approve the merger, which requires the affirmative vote of the holders of a majority of the shares present at the EPIX annual meeting, whether in person or by proxy, and (b) the amendment to EPIX s restated certificate of incorporation increasing the number of

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authorized shares of EPIX common stock, which requires the affirmative vote of the holders of a majority of the outstanding shares of EPIX common stock as of the record date. In addition, Predix stockholders must vote to approve and adopt the merger agreement and to approve the merger, which requires the affirmative vote of the holders of: (a) a majority of the Predix common stock and preferred stock voting as a single class (on an as-converted to Predix common stock basis); (b) 60% of the Predix preferred stock voting as a single class (on an as-converted to Predix common stock basis), and (c) 66²/3 % of the shares of Predix Series C preferred stock (on an as-converted to Predix common stock basis), in each case, outstanding on the record date for the Predix special meeting.

In addition to obtaining stockholder approval and appropriate regulatory approvals, including antitrust clearance, each of the other closing conditions set forth in the merger agreement must be satisfied or waived. For a more complete description of the closing conditions under the merger agreement, we urge you to read the section entitled The Merger Agreement Conditions to the Completion of the Merger on page 89 of this joint proxy statement/prospectus.

Q: What do I need to do now? (See pages 50 and 54)

A: After carefully reading and considering the information contained in and incorporated into this joint proxy statement/ prospectus, please submit your proxy card according to the instructions on the enclosed proxy card as soon as possible. If you do not submit a proxy card or attend the special meeting and vote in person, your shares will not be represented or voted at the meeting.

Q: Will the merger trigger the recognition of gain or loss for U.S. federal income tax purposes for Predix stockholders? (See page 74)

A: The closing of the merger is conditioned upon the receipt by Predix and EPIX of opinions that the merger will constitute a reorganization for U.S. federal income tax purposes. Assuming the merger does constitute a reorganization, subject to the limitations and qualifications described in The Merger Material United States Federal Income Tax Consequences of the Merger, each Predix stockholder generally will recognize gain, but not loss, for federal income tax purposes in an amount equal to the lesser of (a) the amount of cash such Predix stockholder receives in the merger or (b) the amount, if any, by which the sum of (i) the fair market value, as of the effective time of the merger, of any EPIX common stock such Predix stockholder receives, and (ii) the amount of cash such Predix stockholder receives in the merger, exceeds such Predix stockholder s adjusted tax basis in its shares of Predix common stock or preferred stock, as applicable. Any cash received in lieu of a fractional share of EPIX common stock will be treated separately for federal income tax purposes. The tax consequences to Predix stockholders will depend on each stockholder s own circumstances. Each Predix stockholder should consult with his, her or its tax advisor for a full understanding of the tax consequences of the merger to that stockholder.

Q: How does the EPIX Board of Directors recommend that I vote?

- A: After careful consideration, the EPIX board of directors recommends that EPIX stockholders vote:

 FOR Proposal No. 1 to approve the issuance of shares of EPIX common stock in the merger and approve the merger;
 - FOR Proposal No. 2 to approve an amendment to EPIX s amended and restated certificate of incorporation to increase the number of authorized shares of common stock from 40,000,000 shares to 100,000,000 shares;
 - FOR Proposal No. 3 to elect two directors for a three-year term to expire at the 2009 annual meeting of stockholders; provided, however, that if the merger is completed, the EPIX board of directors will consist of the nine persons identified in this joint proxy statement/ prospectus;

FOR Proposal No. 4 to ratify the selection of Ernst & Young LLP as EPIX s independent registered public accounting firm for the fiscal year ending December 31, 2006; and

FOR Proposal No. 5 to adjourn the annual meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of Proposal Nos. 1 and 2.

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Q: How does the Predix Board of Directors recommend that I vote?

A: After careful consideration, the Predix board of directors recommends that Predix stockholders vote: FOR Proposal No. 1 to approve and adopt the merger agreement and to approve the merger; and

FOR Proposal No. 2 to adjourn the special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of Proposal No. 1.

- Q: What risks should I consider in deciding whether to vote in favor of the share issuance, approval of the merger and the amendment to EPIX s restated certificate of incorporation or the approval and adoption of the merger agreement?
- A: You should carefully review the section of this joint proxy statement/ prospectus entitled Risk Factors beginning on page 19, which sets forth certain risks and uncertainties related to the merger and risks and uncertainties to which the combined company s business will be subject, including the individual businesses of each of EPIX and Predix.

Q: What happens if I do not return a proxy card or otherwise provide proxy instructions?

A: If you are an EPIX stockholder, the failure to return your proxy card or otherwise provide proxy instructions could be a factor in establishing a quorum for the annual meeting of EPIX stockholders. In addition, the failure to return your proxy card or otherwise provide instructions will have the same effect as voting against Proposal No. 2, the amendment of EPIX s restated certificate of incorporation to increase the authorized shares of EPIX common stock, the approval of which is necessary to enable EPIX to issue shares of EPIX common stock to Predix stockholders, option holders and warrant holders in connection with the merger. If you are a Predix stockholder, the failure to return your proxy card or otherwise provide proxy instructions will have the same effect as voting against the approval and adoption of the merger agreement and the approval of the merger, and could be a factor in establishing a quorum for the special meeting of Predix stockholders.

Q: May I vote in person?

A: If your shares of EPIX common stock on the record date are registered directly in your name with EPIX s transfer agent you are considered, with respect to those shares, the stockholder of record, and the proxy materials and proxy card are being sent directly to you by EPIX. If you are an EPIX stockholder of record, you may attend the annual meeting of EPIX stockholders to be held on , 2006 and vote your shares in person, rather than signing and returning your proxy card or otherwise providing proxy instructions. Each Predix stockholder on the record date is a stockholder of record and may attend the special meeting of Predix stockholders to be held on , 2006 and vote your shares in person, rather than signing and returning your proxy card or otherwise providing proxy instructions. All EPIX and Predix stockholders are requested to return their proxy cards, even if they intend to vote in person.

Q: May I change my vote after I have provided proxy instructions?

A: Yes. You may change your vote at any time before your proxy is voted at either the annual meeting of EPIX stockholders or the special meeting of Predix stockholders. You can do this in one of three ways. First, you can send a written notice stating that you would like to revoke your proxy. Second, you can submit new proxy instructions either on a new proxy card and if you are an EPIX stockholder also, by telephone or via the Internet. Third, you can attend the meeting and vote in person. Your attendance alone will not revoke your proxy. If you have instructed a broker to vote your shares of EPIX common stock, you must follow directions received from your broker to change those instructions.

Q: Am I entitled to appraisal rights?

A: Under Delaware law, Predix stockholders are entitled to appraisal rights in connection with the merger. Please see the section entitled The Merger Appraisal Rights on page 78 for more information. As EPIX s common stock is quoted on The NASDAQ National Market, EPIX stockholders will not be entitled to appraisal rights.

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Q: Have any Predix stockholders entered into lock-up agreements?

A: EPIX expects to obtain lock-up agreements from the officers, directors and certain stockholders of Predix covering an aggregate of approximately 8,772,286 Predix shares (on an as-converted to Predix common stock basis), or approximately 53% of Predix s outstanding shares, which agreements prohibit the sale, transfer, pledge or other disposition with respect to EPIX common stock for up to 180 days following the consummation of the merger as follows: (a) one-third (1/3) of such holder s restricted shares will be released from the lock-up after the 90th day following the consummation of the merger; (b) an additional one-third (1/3) of such holder s restricted shares will be released from the lock-up after the 120th day following the consummation of the merger; and (c) the remaining one-third (1/3) of such holder s restricted shares will be released from the lock-up after the 180th day following the consummation of the merger.

In addition, prior to the closing, EPIX expects to obtain affiliate agreements from the holders of approximately 9,049,530 Predix shares (on an as-converted to Predix common stock basis), representing approximately 56% of Predix outstanding shares (on an as-converted to Predix common stock basis) as of such date. These agreements prohibit the sale, transfer or other disposition with respect to EPIX s common stock in violation of the Securities Act of 1933, as amended, or the rules and regulations thereunder.

Q: Have any EPIX stockholders entered into lock-up agreements?

A: Yes. The chairman of the board of directors of EPIX, Christopher F.O. Gabrieli, has agreed to enter into the same lock-up agreement as certain Predix stockholders with respect to his shares of EPIX common stock.

Q: Will Predix stockholders be able to trade the EPIX common stock that they receive in the merger? (See page 78)

A: EPIX and Predix anticipate that the EPIX common stock to be received by stockholders of Predix in the merger will be listed for trading on The NASDAQ National Market under the symbol EPIX. Subject to the lock-up agreements discussed herein, all shares of EPIX common stock issued to Predix stockholders, other than Predix stockholders who are deemed to be affiliates of Predix, will be freely tradable following the merger. EPIX has agreed to file a registration statement with respect to these shares of EPIX common stock to be issued in the merger to persons who are deemed to be affiliates of Predix. As a result, these shares will also be freely tradable upon the effectiveness of this registration statement, subject only to certain prospectus delivery requirements and the terms of the lock-up agreements described herein, if applicable.

Q: Who is paying for this proxy solicitation?

A: EPIX and Predix are conducting this proxy solicitation and will bear the cost of soliciting proxies, including the preparation, assembly, printing and mailing of this joint proxy statement/ prospectus, the proxy card and any additional information furnished to stockholders of EPIX and Predix. EPIX may also reimburse brokerage houses and other custodians, nominees and fiduciaries for their costs of forwarding proxy and solicitation materials to beneficial owners.

Q: When do you expect the merger to be completed?

A: EPIX and Predix are working to complete the merger as quickly as possible. EPIX and Predix expect to complete the merger by the end of July 2006.

Q: Should Predix stockholders send in their stock certificates now? (See page 82)

A:

No. After the merger is completed, EPIX will send you written instructions for exchanging your Predix stock certificates for EPIX stock certificates.

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Q: Whom should I call with questions? (See page 218)

A: If you are an EPIX stockholder and would like additional copies, without charge, of this joint proxy statement/ prospectus or if you have questions about the merger, including the procedures for voting your shares, you should contact:

EPIX Pharmaceuticals. Inc.

Attn: Investor Relations 161 First Street Cambridge, Massachusetts 02142 (617) 250-6000

E-mail: ahedison@epixpharma.com

If you are a Predix stockholder and would like additional copies, without charge, of this joint proxy statement/ prospectus or if you have questions about the merger, including the procedures for voting your shares, you should contact:

Predix Pharmaceuticals Holdings, Inc.

Attn: Investor Relations 4 Maguire Road Lexington, Massachusetts 02421 (781) 372-3260

E-mail: investors@predixpharm.com

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SUMMARY OF THE JOINT PROXY STATEMENT/ PROSPECTUS

This summary highlights selected information from this joint proxy statement/ prospectus and may not contain all of the information that is important to you.

You should carefully read this entire document and the other documents EPIX and Predix refer to for a more complete understanding of the merger. This summary and the balance of this document contain forward-looking statements about events that are not certain to occur, and you should not place undue reliance on those statements. Please carefully read Cautionary Information Regarding Forward-Looking Statements on page 18 of this document.

This joint proxy statement/ prospectus contains trademarks, trade names, service marks and service names of EPIX. Predix and other companies.

The Companies (See pages 126 and 152)

EPIX Pharmaceuticals, Inc.

EPIX is a pharmaceutical company focused on the discovery and development of innovative specialty pharmaceuticals for imaging that are designed to transform the diagnosis, treatment and monitoring of disease. Using its proprietary Target Visualization Technology, EPIX creates imaging agents targeted at the molecular level. These agents are designed to enable physicians to use Magnetic Resonance Imaging, or MRI, to obtain detailed information about specific disease processes. MRI has been established as the imaging technology of choice for a broad range of applications, including the identification and diagnosis of a variety of medical disorders. MRI is safe, relatively cost-effective and provides three-dimensional images that enable physicians to diagnose and manage disease in a minimally invasive manner.

EPIX s principal executive offices are located at 161 First Street, Cambridge, Massachusetts 02142, and its telephone number is (617) 250-6000. EPIX s website address is http://www.epixpharma.com. EPIX s website is a factual reference and it is not intended to be an active link to the website, and the information contained in the website is not a part of this joint proxy statement/ prospectus.

EPIX Delaware, Inc.

EPIX Delaware, Inc. is a wholly-owned subsidiary of EPIX that was recently incorporated in Delaware solely for the purpose of the merger. It does not conduct any business and has no material assets. Its principal executive offices have the same address and telephone number as EPIX set forth above.

Predix Pharmaceuticals Holdings, Inc.

Predix is a privately-held pharmaceutical company focused on the discovery and development of novel, highly selective, small-molecule drugs that target G-Protein Coupled Receptors, or GPCRs, and ion channels. Predix has progressed three drug candidates into clinical trials and has six additional programs in pre-clinical development or discovery. Predix is expecting to complete the first of at least two pivotal Phase III clinical trials for generalized anxiety disorder, or GAD, for its lead drug candidate, PRX-00023, and receive initial data for this trial in the second half of 2006. Predix completed a Phase IIa clinical trial of PRX-00023 in this indication in July 2005. Predix has two other clinical-stage drug candidates that have completed Phase I clinical trials: PRX-03140 for the treatment of Alzheimer's disease that is expected to enter Phase II clinical trials in the second half of 2006, and PRX-08066 for the treatment of two types of pulmonary hypertension, or PH, which are PH associated with chronic obstructive pulmonary disease that is expected to enter Phase II clinical trials in the second half of 2006, and pulmonary arterial hypertension.

Predix s principal executive offices are located at 4 Maguire Road, Lexington, Massachusetts 02421, and its telephone number is (781) 372-3260. Predix s website address is http://www.predixpharm.com.

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Predix s website is a factual reference and it is not intended to be an active link to the website, and the information contained in the website is not a part of this joint proxy statement/ prospectus.

The Combined Company

At the effective time of the merger, EPIX stockholders will retain approximately 53% of the outstanding stock of the combined company, and the former Predix stockholders will own approximately 47% of the outstanding stock of the combined company, based on the number of shares of EPIX common stock and Predix common stock and preferred stock outstanding as of the date of the merger agreement. EPIX will also assume all outstanding Predix options and warrants in the merger. In addition, EPIX will make a milestone payment of \$35 million to Predix stockholders, option holders and warrant holders upon the occurrence of certain events. In no event will the shares of EPIX common stock issuable at the effective time of the merger, including the shares of EPIX common stock issuable upon exercise of Predix options and warrants assumed by EPIX in the merger, exceed 49.99% of the outstanding EPIX common stock immediately after the effective time of the merger. In addition, in no event may the milestone be paid in shares of EPIX common stock to the extent that such shares would exceed 49.99% of the outstanding shares of EPIX common stock immediately after such milestone payment, when combined with all shares of EPIX common stock issued in the merger and issuable upon exercise of all Predix options and warrants assumed by EPIX in the merger. The combined company s board of directors is expected to consist of five directors designated by EPIX and four Predix directors designated by Predix. In addition, the management team of the combined company will consist of certain current members of both EPIX and Predix. Predix s principal executive office is expected to be the combined company s executive principal office.

Risks Associated with the Merger and the Combined Company, EPIX and Predix (See page 19)

The merger poses a number of risks to each company and its respective stockholders. In addition, both EPIX and Predix s businesses and industries are subject to various risks. These risks are discussed in detail under the caption Risk Factors beginning on page 19. You are encouraged to read and consider all of these risks carefully.

Stockholder Meetings

The EPIX Annual Meeting (See page 50)

Time, Date and Place. The annual meeting of the stockholders of EPIX will be held on , 2006, at the offices of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., One Financial Center, Boston, Massachusetts, at 10:00 a.m., local time, to vote on Proposal No. 1 to approve the issuance of shares of EPIX common stock in the merger and approve the merger, Proposal No. 2 to approve an amendment to EPIX s restated certificate of incorporation to increase the number of authorized shares of common stock from 40,000,000 shares to 100,000,000 shares, Proposal No. 3 to elect two directors for a three-year term to expire at the 2009 annual meeting of stockholders; provided, however, that, if the merger is completed, the EPIX board of directors will consist of the nine persons identified in this joint proxy statement/ prospectus, Proposal No. 4 to ratify the selection of Ernst & Young LLP as EPIX s independent registered public accounting firm for the fiscal year ending December 31, 2006, and Proposal No. 5 to adjourn the annual meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of Proposal Nos. 1 and 2.

Record Date and Voting Power for EPIX. You are entitled to vote at the EPIX annual meeting if you owned shares of EPIX common stock at the close of business on , 2006, the record date for the EPIX annual meeting. You will have one vote at the annual meeting for each share of EPIX common stock you owned at the close of business on the record date. There are shares of EPIX common stock entitled to vote at the annual meeting.

EPIX Required Vote. The affirmative vote of the holders of a majority of the shares present at the EPIX annual meeting, whether in person or by proxy, is required for approval of Proposal Nos. 1, 4, 5 and

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6 above. The affirmative vote of the holders of a majority of the outstanding shares of EPIX common stock on the record date is required for approval of Proposal No. 2. The affirmative vote of a plurality of the votes cast in person or by proxy at the EPIX annual meeting is required for approval of Proposal No. 3.

Share Ownership of Management. As of with their affiliates, beneficially owned approximately meeting.

, 2006, the directors and executive officers of EPIX, together % of the shares entitled to vote at the EPIX annual

The Predix Special Meeting (See page 54)

Time, Date and Place. The special meeting of the stockholders of Predix will be held on , 2006, at the offices of Goodwin, Procter LLP, Exchange Place, Boston, Massachusetts, at 9:00 a.m., local time, to vote on Proposal No. 1 to approve and adopt the merger agreement and approve of the merger and Proposal No. 2 to adjourn the Predix special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of Proposal No. 1.

Record Date and Voting Power for Predix. You are entitled to vote at the Predix special meeting if you owned shares of Predix common stock or preferred stock at the close of business on , 2006, the record date for the special meeting. You will have one vote at the special meeting for each share of Predix common stock you owned at the close of business on the record date. You will also have one vote at the special meeting for each share of Predix common stock issuable upon conversion of the shares of Predix preferred stock you owned at the close of business on the record date. There are 1,044,059 shares of Predix common stock and 15,177,898 shares of Predix preferred stock (on an as-converted to Predix common stock basis) entitled to vote at the Predix special meeting.

Predix Required Vote. The affirmative vote of the holders of (a) a majority of the Predix common stock and preferred stock voting as a single class (on an as-converted to Predix common stock basis), (b) 60% of the Predix preferred stock voting as a single class (on an as-converted to Predix common stock basis) and (c) 66²/3 % of the shares of Predix series C preferred stock (on as as-converted to Predix common stock basis), in each case, outstanding on the record date, is required for approval of Proposal No. 1. The affirmative vote of the holders of a majority of the Predix common shares and preferred shares voting as a single class is required for approval of Proposal No. 2.

Share Ownership of Management. As of March 31, 2006, the directors and executive officers of Predix, together with their affiliates, beneficially owned approximately 56% of the shares of Predix common stock and preferred stock, on an as-converted Predix common stock basis, entitled to vote at the Predix special meeting. Stockholders of Predix beneficially owning approximately 40% of the outstanding voting stock of Predix have agreed to vote their shares in favor of the approval and adoption of the merger agreement and the approval of the merger. Certain of these stockholders are affiliated with directors of Predix.

Recommendation to Stockholders

To EPIX Stockholders (See page 66). The EPIX board of directors has determined and believes that the issuance of shares of EPIX common stock in the merger and the merger are advisable to and in the best interest of EPIX and its stockholders. The EPIX board of directors recommends that the holders of EPIX common stock vote:

FOR Proposal No. 1 to approve the issuance of shares of EPIX common stock in the merger and approve the merger;

FOR Proposal No. 2 to approve an amendment to EPIX s restated certificate of incorporation to increase the number of authorized shares of common stock from 40,000,000 shares to 100,000,000 shares;

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FOR Proposal No. 3 to elect two directors for a three-year term to expire at the 2009 annual meeting of stockholders; provided, however, that if the merger is completed, the EPIX board of directors will consist of the nine persons identified in this joint proxy statement/ prospectus;

FOR Proposal No. 4 to ratify the selection of Ernst & Young LLP as EPIX s independent registered public accounting firm for the fiscal year ending December 31, 2006; and

FOR Proposal No. 5 to adjourn the annual meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of Proposal Nos. 1 and 2.

To Predix Stockholders (See page 74). The Predix board of directors has determined and believes that the merger is advisable to, and in the best interest of, Predix and its stockholders. The Predix board of directors recommends that the Predix stockholders vote:

FOR Proposal No. 1 to approve and adopt the merger agreement and approve of the merger; and

FOR Proposal No. 2 to adjourn the Predix special meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of Proposal No. 1.

Fairness Opinion Received by EPIX (See page 66)

Needham & Company, LLC delivered its opinion to the EPIX board of directors that, as of March 30, 2006, and based on and subject to the factors and assumptions set forth therein, the consideration to be paid by EPIX in the merger is fair to EPIX and the holders of EPIX common stock from a financial point of view.

The full text of the written opinion of Needham & Company, LLC, dated March 30, 2006, which sets forth the assumptions made, procedures followed, matters considered and limitations on the review undertaken in connection with the opinion, is attached to this joint proxy statement/ prospectus as Annex C. Needham & Company, LLC provided its opinion for the information and assistance of the EPIX board of directors in connection with its consideration of the merger. The written opinion of Needham & Company, LLC is not a recommendation as to how any holder of EPIX common stock should vote with respect to the issuance of shares of EPIX common stock in the merger, the approval of the merger or the amendment to EPIX s restated certificate of incorporation. **EPIX urges you to read the entire opinion of Needham & Company, LLC carefully.**

Voting Agreements (See page 92)

The following stockholders of Predix entered into voting agreements with EPIX on April 3, 2006: Caduceus Private Investment, L.P., UBS PW Juniper Crossover Fund, L.L.C., Hare and Company FAO: Finsbury Worldwide Pharma, Yozma II (Israel) L.P., Yozma Venture Capital Ltd, YVC-Yozma Management & Investments Ltd., as trustee for Yozma II (B.V.I.) L.P., PCM Venture Capital L.P., Yamanouchi Venture Capital and PA International Limited. These entities represent an aggregate of approximately 40% of the outstanding voting shares of Predix (on an as-converted to Predix common stock basis). Each has agreed in the voting agreements to vote all shares of Predix common stock and preferred stock beneficially owned by each as of the record date in favor of the approval and adoption of the merger agreement and the approval of the merger. Each also granted EPIX an irrevocable proxy to vote their shares of Predix common stock and preferred stock in favor of the adoption of the merger agreement and the approval of the merger. Certain of these stockholders are affiliated with directors of Predix.

Interests of EPIX s Directors and Management (See page 78)

Some directors and management of EPIX have interests in the merger that are different from, and in addition to, the interests of EPIX stockholders generally.

Upon completion of the merger, Christopher F.O. Gabrieli, Michael Gilman, Ph.D., Mark Leuchtenberger and Gregory D. Phelps, each of whom is a current director of EPIX, is expected to be a member of the EPIX board of directors. In addition, certain executive officers and key employees of EPIX

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are expected to serve as executive officers or key employees of EPIX after the effective time of the merger and certain officers of EPIX will be entitled to bonuses upon completion of the merger and/or severance payments after completion of the merger.

Upon completion of the merger and the issuance of EPIX common stock in the merger, the directors and officers of EPIX will collectively beneficially own approximately 1.3% of the outstanding stock of EPIX, calculated on the basis set forth under EPIX Principal Stockholders.

Interests of Predix s Directors and Management (See page 79)

Some directors and management of Predix have interests in the merger that are different from, and in addition to, the interests of Predix stockholders generally.

Upon completion of the merger, Patrick J. Fortune, Ph.D, Frederick Frank, Michael G. Kauffman, M.D., Ph.D. and Ian F. Smith, CPA, ACA, each of whom is a current director of Predix, is expected to be a member of the EPIX board of directors. In addition, certain executive officers and key employees of Predix are expected to serve as executive officers or key employees of EPIX at the effective time of the merger.

Moreover, Mr. Frank, the Chairman of Predix s board of directors, is also the Vice Chairman and a director of Lehman Brothers Inc., Predix s financial advisor in connection with the merger. Lehman Brothers is entitled to certain fees and expenses from Predix upon consummation of the merger.

Certain of the stockholders of Predix who have entered into voting agreements with EPIX, agreeing to vote all of the shares beneficially owned by them in favor of approval and adoption of the merger agreement and approval of the merger, are affiliated with directors of Predix.

Pursuant to the merger agreement, upon completion of the merger, the combined company will honor Predix s existing obligations to indemnify its present and former directors, officers and employees to the same extent as provided in Predix s certificate of incorporation, by-laws or any applicable contract or agreement. The certificate of incorporation and by-laws of the combined company will provide for the indemnification and limitation of liability to the same extent as set forth in Predix s certificate of incorporation and by-laws and the combined corporation will indemnify and hold harmless each present and former director, officer or employee of Predix in respect of acts or omissions occurring prior to the completion of the merger, including in connection with the merger agreement and the transactions contemplated thereby.

Upon completion of the merger and the issuance of EPIX common stock in the merger, the directors and officers of Predix, will collectively beneficially own approximately 6.5% of the outstanding stock of EPIX, calculated on the basis set forth under Predix Principal Stockholders.

Completion and Effectiveness of the Merger (See pages 80 and 88)

EPIX and Predix expect to complete the merger when all of the conditions to completion of the merger contained in the merger agreement have been satisfied or waived. The merger will become effective upon the filing of a certificate of merger with the Secretary of State of the State of Delaware.

EPIX and Predix are working toward satisfying the conditions to the merger, and expect to complete the merger promptly following the stockholder meetings.

Restrictions on Solicitation of Alternative Transactions by EPIX and Predix (See page 84)

EPIX and Predix have each agreed, and have further agreed to ensure that their representatives do not, prior to the consummation of the merger, directly or indirectly, solicit, encourage, have negotiations with respect to (including furnishing information) or take any action that could reasonably be expected to result in the initiation or submission of any inquiries, proposals or offers regarding, or approve, endorse or recommend, any acquisition, merger, take-over bid, sale of substantial assets, sale of shares of capital stock (including without limitation by way of a tender offer) or similar transactions. EPIX and Predix have also

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agreed to notify each other upon receipt of any alternative acquisition proposal or any inquiry that would reasonably be expected to lead to an alternative acquisition proposal, including the terms of the alternative acquisition proposal or inquiry and the identity of the person making the alternative acquisition proposal or inquiry. However, if EPIX or Predix receives an unsolicited bona fide written acquisition proposal that is a superior acquisition proposal prior to the EPIX annual meeting or Predix special meeting, respectively, then EPIX or Predix may provide nonpublic information to, and engage in discussions and negotiations with, the third party making the acquisition proposal so long as certain conditions are satisfied.

Conditions to the Completion of the Merger (See page 88)

EPIX and Predix s obligations to complete the merger are subject to certain conditions described under the heading The Merger Agreement Conditions to the Completion of the Merger beginning on page 88.

Termination of the Merger Agreement and Payment of Certain Termination Fees (See pages 90 and 91)

EPIX and Predix may terminate the merger agreement by mutual agreement and under certain other circumstances. EPIX and Predix have agreed that if the merger agreement is terminated under the circumstances described under The Merger Agreement Fees and Expenses on page 91, a termination fee of \$4.5 million may be payable by either EPIX or Predix to the other party upon the termination of the merger agreement.

United States Federal Tax Consequences of the Merger (See page 74)

The closing of the merger is conditioned upon the receipt by EPIX and Predix of opinions that the merger will constitute a reorganization for U.S. federal income tax purposes. Assuming the merger does constitute a reorganization, subject to the limitations and qualifications described in The Merger Material United States Federal Income Tax Consequences of the Merger beginning on page 74, each Predix stockholder generally will recognize gain, but not loss, for federal income tax purposes in an amount equal to the lesser of (a) the amount of cash such Predix stockholder receives in the merger or (b) the amount, if any, by which the sum of (i) the fair market value, as of the effective time of the merger, of any EPIX common stock such Predix stockholder receives, and (ii) the amount of cash such Predix stockholder receives in the merger, exceeds such Predix stockholder s adjusted tax basis in its shares of Predix common stock or preferred stock, as applicable. Any cash received in lieu of a fractional share of EPIX common stock will be treated separately for federal income tax purposes. This tax treatment may not apply to certain Predix stockholders, as described in The Merger Material United States Federal Income Tax Consequences of the Merger beginning on page 74. Determining the actual tax consequences of the merger to you may be complex and will depend on the facts of your own situation. You should consult your own tax advisors to fully understand the tax consequences to you of the merger, including estate, gift, state, local or non-U.S. tax consequences of the merger.

Accounting Treatment of the Merger (See page 74)

EPIX, the acquirer, will account for the merger as a purchase.

Appraisal Rights (See page 78)

Under Delaware law, Predix stockholders are entitled to appraisal rights in connection with the merger. Please see the section entitled The Merger Appraisal Rights on page 78 for more information. As EPIX s common stock is quoted on The NASDAQ National Market, EPIX stockholders will not be entitled to appraisal rights.

Exchange of Predix Stock Certificates (See page 82)

Following the effective time of the merger, EPIX will cause a letter of transmittal to be mailed to all holders of Predix common stock and preferred stock containing instructions for surrendering their

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certificates. Certificates should not be surrendered until the letter of transmittal is received, fully completed and returned as instructed in the letter of transmittal.

Regulatory Approvals (See page 86)

EPIX and Predix are each required to file premerger Notification and Report forms relating to the merger under the Hart-Scott-Rodino Act. EPIX must also comply with applicable federal and state securities laws and the rules and regulations of The NASDAQ National Market in connection with the issuance of shares of EPIX common stock in the merger and the filing of this joint proxy statement/ prospectus with the Securities and Exchange Commission.

Restrictions on the Ability to Sell EPIX Common Stock (See page 78)

Subject to the lock-up agreements described in this joint proxy statement/ prospectus, all shares of EPIX common stock that Predix stockholders receive in connection with the merger will be freely transferable unless you are considered an affiliate of Predix for the purposes of the Securities Act of 1933, as amended, at the time the merger agreement is submitted to Predix stockholders for approval and adoption, in which case you will be permitted to sell the shares of EPIX common stock you receive in the merger only pursuant to an effective registration statement or an exemption from the registration requirements of the Securities Act of 1933, as amended. The registration statement of which this joint proxy statement/ prospectus forms a part does not register the resale of stock received by affiliates of Predix in the merger. EPIX has agreed to file a registration statement with respect to the shares of EPIX common stock received by the affiliates of Predix. As a result, these shares will be freely transferable upon the effectiveness of the registration statement, subject only to certain prospectus delivery requirements and the terms of the lock-up agreements, if applicable.

Comparison of EPIX and Predix Stockholder Rights (see page 201)

Upon completion of the merger, Predix stockholders will become stockholders of EPIX. The internal affairs of EPIX are governed by EPIX s restated certificate of incorporation and amended and restated by-laws. The internal affairs of Predix are currently governed by Predix s restated certificate of incorporation, as amended, and amended and restated by-laws. Due to differences between the governing documents of EPIX and Predix, the merger will result in Predix stockholders having different rights once they become EPIX stockholders.

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EPIX SELECTED HISTORICAL FINANCIAL INFORMATION

The following EPIX selected historical financial information is only a summary and you should read the following financial information together with EPIX Management s Discussion and Analysis of Financial Condition and Results of Operations and EPIX s financial statements and the notes thereto included elsewhere in this joint proxy statement/prospectus.

The following tables present EPIX s selected statements of operations and balance sheet data for the years ended December 31, 2005, 2004, 2003, 2002 and 2001. EPIX has derived the following statements of operations data for the years ended December 31, 2005, 2004 and 2003 and the balance sheet data as of December 31, 2005 and 2004 from EPIX s audited financial statements which are included in this joint proxy statement/ prospectus. EPIX has derived the following statements of operations data for the years ended December 31, 2002 and 2001 and the balance sheet data as of December 31, 2003, 2002 and 2001 from EPIX s audited financial statements, which are not included in this joint proxy statement/ prospectus. EPIX s historical results for any prior period are not necessarily indicative of results to be expected for any future period.

Year Ended December 31,

	2005	2004	2003	2002	2001			
	(In thousands, except per share data)							
Statement of Operations Data:								
Revenues	\$ 7,190	\$ 12,259	\$ 13,525	\$ 12,270	\$ 9,569			
Operating loss	(24,802)	(20,111)	(21,083)	(22,816)	(18,841)			
Loss before provision for income taxes	(24,269)	(20,281)	(20,714)	(22,098)	(18,156)			
Provision for income taxes	42	100	80	94	1,092			
Net loss	(24,311)	(20,381)	(20,795)	(22,191)	(19,248)			
Weighted average common shares outstanding:								
Basic and diluted	23,258	22,889	19,056	16,878	14,007			
Net loss per share, basic and diluted	\$ (1.05)	\$ (0.89)	\$ (1.09)	\$ (1.31)	\$ (1.38)			

As of December 31,

	2005	2004	2003	2002	2001
Balance Sheet Data:					
Cash, cash equivalents and marketable securities	\$ 124,728	\$ 164,440	\$ 79,958	\$ 28,112	\$ 24,966
Working capital	113,098	136,653	57,011	12,364	8,277
Total assets	130,716	171,287	81,875	30,155	26,911
Long-term liabilities	100,756	101,210	4,331	7,829	12,844
Total stockholders equity (deficit)	17,833	41,382	54,157	5,887	(3,210)
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PREDIX SELECTED HISTORICAL CONSOLIDATED FINANCIAL INFORMATION

The following Predix selected historical financial information is only a summary and you should read the following financial information together with Predix Management's Discussion and Analysis of Financial Condition and Results of Operations and Predix's consolidated financial statements and the notes thereto included elsewhere in this joint proxy statement/ prospectus.

The following tables present Predix s selected consolidated statements of operations and balance sheet data for the years ended December 31, 2005, 2004, 2003, 2002 and 2001. Predix has derived the following consolidated statements of operations data for the years ended December 31, 2005, 2004 and 2003 and the consolidated balance sheet data as of December 31, 2005 and 2004 from Predix s audited consolidated financial statements which are included in this joint proxy statement/ prospectus. Predix has derived the following consolidated statements of operations data for the years ended December 31, 2002 and 2001 and the consolidated balance sheet data as of December 31, 2003, 2002 and 2001 from Predix s audited consolidated financial statements, which are not included in this joint proxy statement/ prospectus. Predix s historical results for any prior period are not necessarily indicative of results to be expected for any future period.

		Year Ended December 31,						
	2005	2004	2003(1)	2002	2001			
		(In thousands, except per share data)						
Statement of Operations Data:								
Revenues	\$ 2,300	\$ 13	\$ 1,068	\$ 551	\$			
Operating loss	(34,287)	(19,502)	(24,696)	(11,206)	(12,978)			
Income tax benefit				258				
Net loss	(33,703)	(19.392)	(24,560)	(11.241)	(11.189)			

	As of December 31,						
	2005	2004	2003	2002	2001		
	(In thousands)						
Balance Sheet Data:							
Cash, cash equivalents and marketable securities	\$ 7,413	\$ 13,813	\$ 10,999	\$ 21,976	\$ 33,097		
Working capital	1,314	11,798	9,409	21,671	31,713		
Total assets	11,799	16,717	13,462	27,098	39,568		
Capital lease obligations, net of current portion	109	127	219	32	50		
Lease abandonment liability, net of current portion	1,109	1,068	1,331				
Total stockholders equity	1,248	12,470	9,906	26,140	37,623		

- (1) In August 2003, Predix acquired all of the capital stock of Predix Pharmaceuticals Ltd., an Israeli corporation. The transaction was recorded as a purchase for accounting purposes and Predix s consolidated statements of operations data include the operating results of Predix Pharmaceuticals Ltd. from the date of acquisition.
- (2) As a result of the acquisition of Predix Pharmaceuticals Ltd., Predix consolidated facilities and reduced headcount resulting in restructuring charges in 2003 of \$5.4 million.

EPIX AND PREDIX UNAUDITED PRO FORMA CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

The following unaudited pro forma condensed consolidated financial statements give effect to the merger of EPIX and Predix in a transaction to be accounted for as a purchase by EPIX. The unaudited pro forma condensed consolidated balance sheet combines the historical consolidated balance sheets of EPIX and Predix as of December 31, 2005, giving effect to the merger as if it occurred on December 31, 2005. The unaudited pro forma condensed consolidated statement of operations for the year ended December 31, 2005 assumes the merger took place on January 1, 2005.

These unaudited pro forma condensed consolidated financial statements are for informational purposes only. They do not purport to indicate the results that would have actually been obtained had the merger been completed on the assumed date or for the periods presented, or that may be realized in the future. To produce the unaudited pro forma financial information, EPIX preliminarily allocated the purchase price using its best estimates of fair value. These estimates are based on the most recently available information in preparing a preliminary value. To the extent there are significant changes to Predix s business, the assumptions and estimates herein could change significantly. Furthermore, the parties may have reorganization and restructuring expenses as well as potential operating efficiencies as a result of combining the companies. The pro forma financial information does not reflect these potential expenses and efficiencies. The unaudited pro forma condensed consolidated financial statements should be read in conjunction with EPIX Management s Discussion and Analysis of Financial Condition and Results of Operations and Predix Management s Discussion and Analysis of Financial Condition and Results of Operations and the historical consolidated financial statements, including the related notes, of EPIX and Predix, respectively, covering these periods, included elsewhere in this joint proxy statement/ prospectus.

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UNAUDITED PRO FORMA CONDENSED CONSOLIDATED BALANCE SHEET As of December 31, 2005

	EPIX	Predix	Pro Forma Note Adjustments Reference	Pro Forma Combined
			(In thousands)	
	AS	SSETS		
Current Assets:				
Cash and cash equivalents	\$ 72,503	\$ 5,912		\$ 78,415
Marketable securities	52,226	1,501		53,727
Accounts receivable	149			149
Prepaid expenses and other current				
assets	347	2,016		2,363
Total current assets	125,225	9,429		134,654
Restricted cash		931		931
Property and equipment, net	2,518	1,399		3,917
Other assets	2,973	40		3,013
Total assets	\$ 130,716	\$ 11,799		\$ 142,515
LIABI	LITIES AND ST	COCKHOLDE	RS EQUITY	
Current liabilities:				
Accounts payable	\$ 1.268	\$ 2,477		\$ 3.745

LIABILITIES AND STOCKHOLDERS					EQUITY		
Current liabilities:							
Accounts payable	\$ 1,26	8 \$	2,477				\$ 3,745
Accrued expenses	4,31	0	4,637	\$	2,509	(B)	11,456
Contract advances	6,11	3					6,113
Current portion of deferred revenue	43	6	760				1,196
Current portion of capital lease							
obligations			89				89
Current portion of lease abandonment							
liability			152				152
Total current liabilities	12,12	.7	8,115		2,509		22,751
Accrued rent			440				440
Convertible debt	100,00	0					100,000
Capital lease obligations, net of current							
portion			109				109
Lease abandonment liability, net of							
current portion			1,109				1,109
Deferred revenue, net of current							
portion	75	6	778				1,534
•							
Total liabilities	112,88	3	10,551		2,509		125,943
					·		
Stockholders equity:							
Preferred stock			2,732		(2,732)	(C)	
Common stock	23	3	10		205	(A)	438
						` /	

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			(10)	(C)			
Additional paid-in capital	197,311	122,200	81,398	(A)	288,103		
			4,567	(A)			
			(122,200)	(C)			
			4,827	(F)			
Deferred compensation		(2,294)	2,294	(C)	(4,827)		
			(4,827)	(F)			
Accumulated other comprehensive							
income	(66)	(1)	1	(C)	(66)		
Accumulated deficit	(179,645)	(121,399)	121,399	(C)	(267,076)		
			(87,431)	(D)			
Total stockholders equity	17,833	1,248	(2,509)		16,572		
Total liabilities and stockholders equity	\$ 130,716	\$ 11,799	\$		\$ 142,515		
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UNAUDITED PRO FORMA CONDENSED CONSOLIDATED STATEMENT OF OPERATIONS Year Ended December 31, 2005

	EPIX	Predix	Pro Forma Adjustments	Note Reference		Pro Forma ombined		
		(In thous	ands, except per	· share data)				
Revenues:								
Product development revenue	\$ 4,196	\$ 1,737			\$	5,933		
Royalty revenue	2,333					2,333		
License fee revenue	661	563				1,224		
Total revenues:	7,190	2,300				9,490		
Costs and expenses:								
Research and development	20,776	29,351	784	(G)		50,911		
General and administrative	10,244	7,031	196	(G)		17,471		
Restructuring	972	205				1,177		
Total costs and expenses	31,992	36,587	980			69,559		
Loss from operations	(24,802)	(34,287)	(980)			(60,069)		
Other income (expense):	,		, ,					
Investment income, net	4,146	614				4,760		
Interest expense	(3,613)	(30)				(3,643)		
Loss before provision for income tax	(24,269)	(33,703)	(980)			(58,952)		
Provision for income tax	42	, ,				42		
Net loss	\$ (24,311)	\$ (33,703)	(980)		\$	(58,994)		
Amounts per common share:		, (==,==,	(/			(= =)= =)		
Net loss per share, basic and diluted	\$ (1.05)				\$	(1.35)		
- 100 Cara Para 2000 Cara	+ (=155)				-	(=100)		
Weighted average shares, basic and diluted	23,258		20,503	(E)		43,761		
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NOTES TO UNAUDITED PRO FORMA CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

1. Description of Transaction and Basis of Presentation

On April 3, 2006, EPIX Pharmaceuticals, Inc. (EPIX) and Predix Pharmaceuticals Holdings, Inc. (Predix) signed an Agreement and Plan of Merger (the Merger Agreement) under which Predix will merge with and into EPIX Delaware, Inc., a wholly-owned subsidiary of EPIX, in a transaction to be accounted for as a purchase by EPIX. The assets and liabilities of Predix will be recorded as of the acquisition date at their estimated fair values. The reported consolidated financial condition and results of operations of EPIX after completion of the merger will reflect these values, but will not be restated retroactively to reflect historical consolidated financial position or results of operations of Predix. The transaction is expected to qualify as a reorganization within the meaning of Section 386(a) of the Internal Revenue Code. Under the terms of the merger agreement, each share of Predix common stock and preferred stock (on an as-converted to Predix common stock basis) outstanding at the closing of the merger will be exchanged for 1.248509 shares of EPIX common stock, plus cash in lieu of fractional shares. In addition, options to purchase Predix capital stock that are outstanding on the closing date will be assumed by EPIX and will thereafter constitute an option to acquire the number of shares of EPIX common stock determined by multiplying the number of shares of Predix capital stock subject to the option immediately prior to the merger by 1.248509, rounded down to the nearest whole share, with an exercise price equal to the exercise price of the assumed Predix option divided by 1.248509, rounded up to the nearest whole cent. Each of these options will be subject to the same terms and conditions that were in effect for the related Predix options. In addition, EPIX will make a milestone payment to Predix stockholders and option holders upon the occurrence of certain events. In no event will the shares of EPIX common stock issuable at the effective time of the merger, including the shares issuable upon exercise of Predix options assumed by EPIX in the merger, exceed 49.99% of the outstanding EPIX common stock immediately after the effective time of the merger. In addition, in no event may the milestone be paid in shares of EPIX common stock to the extent that such shares would exceed 49.99% of the outstanding shares of EPIX common stock immediately after such milestone payment, when combined with all shares of EPIX common stock issued in the merger and issuable upon exercise of all Predix options assumed by EPIX in the merger. The merger is subject to customary closing conditions, including approval by EPIX and Predix shareholders.

2. Purchase Price

A preliminary estimate of the purchase price is as follows (in thousands):

Fair value of EPIX shares issued Estimated fair value of vested Predix stock options exchanged for EPIX stock options	\$ 81,603 4,567
Subtotal Estimated transaction costs incurred by EPIX	86,170 2,509
Estimated purchase price	\$ 88,679

For pro forma purposes, the fair value of the EPIX common stock used in determining the purchase price was \$3.98 per share, which is the implied price of EPIX common stock based on (a) the average closing price of EPIX common stock on the two full trading days immediately preceding the public announcement of the merger, the trading day the merger was announced and the two full trading days immediately following such public announcement and (b) the exchange ratio of 1.248509. The fair value of the EPIX stock options exchanged was determined by using the Black-Scholes option pricing model with the following assumptions: stock price of \$3.98, which is the value ascribed to the EPIX common stock in determining the purchase price; volatility of 70%; risk-free interest rate of 4.62%; and an expected life of 4.9 years.

NOTES TO UNAUDITED PRO FORMA CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For pro forma purposes, the estimated purchase price has been allocated based on a preliminary valuation of Predix s tangible and intangible assets and liabilities based on their estimated fair values as of December 31, 2005 (in thousands):

Net tangible assets acquired	\$ 1,248
In-process research and development	87,431
Total	\$ 88,679

The allocation of the purchase price is preliminary. The final determination of the purchase price allocation will be based on the fair values of assets acquired, including the fair values of in-process research and development, other identifiable intangibles and the fair values of liabilities assumed as of the date that the merger is consummated.

The purchase price allocation will remain preliminary until EPIX completes a valuation of significant identifiable intangible assets acquired (including in-process research and development) and determines the fair values of the other assets and liabilities acquired. The final determination of the purchase price allocation is expected to be completed as soon as practicable after completion of the merger. The final amounts allocated to assets and liabilities acquired could differ significantly from the amounts presented in the unaudited pro forma condensed consolidated financial statements.

The estimated fair value attributed to in-process research and development represents an estimate of the fair value of purchased in-process technology for research projects that, as of the expected closing date of the merger, will not have reached technological feasibility and have no alternative future use. Only those research projects that had advanced to a stage of development where management believed reasonable net future cash flow forecasts could be prepared and a reasonable likelihood of technical success existed were included in the estimated fair value. Accordingly, the in-process research and development primarily represents the estimated fair value of PRX-00023, Predix s drug candidate currently in Phase III clinical trials for the treatment of generalized anxiety disorder, PRX-03140, Predix s drug candidate that has completed Phase I clinical trials for the treatment of Alzheimer s disease, and PRX-08066, Predix s drug candidate that has completed Phase I clinical trials for the treatment of pulmonary hypertension. The estimated fair value of the in-process research and development was determined based on a discounted forecast of the estimate net future cash flows for each project, adjusted for the estimated probability (for these purposes) of technical success and U.S. Food and Drug Administration or European Agency for Evaluation of Medicinal Products approval for each research project. In-process research and development will be expensed immediately following completion of the merger.

3. Pro Forma Adjustments

- (A) To record the value of the EPIX common stock and vested stock options issued in the merger. Cash paid in lieu of fractional shares will be from existing cash balances and cannot be estimated at this time.
- (B) To record the estimated EPIX transactions costs of \$2.5 million. Transaction costs incurred by Predix will be expensed as incurred.
 - (C) To eliminate Predix s historical stockholders equity accounts.
- (D) To record the estimated fair value of in-process research and development acquired in the merger. Because this expense is directly attributable to the acquisition and will not have a continuing impact, it is not reflected in the pro forma condensed statement of operations. However, this item will be recorded as an expense immediately following the completion of the merger.
 - (E) To record the issuance of EPIX shares to Predix shareholders to effect the merger.

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NOTES TO UNAUDITED PRO FORMA CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)

- (F) To record deferred compensation for the fair value of unvested Predix options exchanged for unvested EPIX options.
- (G) To record amortization of deferred compensation relating to unvested Predix options exchanged for unvested EPIX options.

The pro forma condensed consolidated financial statements do not include the \$9.5 million debt bridge financing Predix entered into on March 31, 2006. See Note 14 to Predix s consolidated financial statements included elsewhere in this joint proxy statement/prospectus.

4. The Pro Forma Condensed Consolidated Statement of Operations

Other than the adjustment to reflect the amortization of deferred compensation, the pro forma condensed consolidated statement of operations does not include any pro forma adjustments as the expense associated with the fair value of the In Process Research and Development acquired in the merger will not have a continuing impact, therefore, it is not reflected above. In addition, the historical costs of the assets and liabilities acquired in the merger approximate their fair value as they are the result of fairly recent transactions. As such, there are no pro forma adjustments to the pro forma condensed consolidated statement of operations. The final amounts allocated to assets and liabilities acquired could differ significantly from the amounts presented in these unaudited pro forma condensed financial statements.

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COMPARATIVE PER SHARE DATA

The following table sets forth selected historical share, net loss per share and book value per share information of EPIX and unaudited pro forma share, net loss per share and book value per share information after giving effect to the merger between EPIX and Predix, assuming that an aggregate of 20,503,259 shares of EPIX common stock had been issued in exchange for outstanding shares of Predix common stock and preferred stock (on an as-converted to Predix common stock basis). You should read this information in conjunction with the selected historical financial information included elsewhere in this joint proxy statement/ prospectus. The unaudited pro forma share, net loss per share and book value per share information is derived from, and should be read in conjunction with, the unaudited pro forma condensed consolidated financial statements and related notes included elsewhere in this joint proxy statement/ prospectus. The historical share, net loss per share and book value per share information is derived from financial statements of EPIX as of and for the year ended December 31, 2005. The amounts set forth below are in thousands, except per share amounts.

December 31, 2005

EPIX

	Historical		Pro Forma	
Basic and diluted net loss per share	\$	(1.05)	\$	(1.35)
Book value per share		0.77		0.38
Shares used in calculating basic and diluted net loss per share		23,258		43,761
Shares used in calculating book value per share		23,285		43,788
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MARKET PRICE AND DIVIDEND INFORMATION

EPIX

EPIX s common stock currently trades on The NASDAQ National Market under the symbol EPIX. The following table shows the high and low sales price for the common stock by quarter, as reported by The NASDAQ National Market for the periods indicated:

	Price Range	
Period	High	Low
Fiscal Year ended December 31, 2006		
First Quarter	\$ 5.17	\$ 3.33
Fiscal Year Ended December 31, 2005		
First Quarter	\$ 18.18	\$ 6.80
Second Quarter	9.80	6.26
Third Quarter	10.79	7.07
Fourth Quarter	8.47	3.78
Fiscal Year Ended December 31, 2004		
First Quarter	\$ 23.40	\$ 15.94
Second Quarter	26.37	20.34
Third Quarter	22.58	15.80
Fourth Quarter	20.00	15.28

On March 31, 2006, the last full trading day immediately preceding the public announcement of the merger, and on , 2006, the most recent practicable date prior to the mailing of this joint proxy statement/ prospectus, the last reported sales prices of EPIX s common stock, as reported by The NASDAQ National Market, were \$3.50 and \$ per share, respectively. You are encouraged to obtain current trading prices for EPIX s common stock in considering whether to vote to approve the merger. As of , 2006, there were approximately holders of record of EPIX s common stock. EPIX has not paid cash dividends on its common stock and has no intention to do so in the foreseeable future.

Predix

Predix s common stock and preferred stock are not listed for trading on any securities exchange, and Predix does not currently file reports with the Securities and Exchange Commission. As of , 2006, there were approximately 118 holders of record of Predix s common stock and 63 holders of record of Predix s preferred stock.

Predix has never declared or paid cash dividends on its capital stock. Predix does not anticipate paying any cash dividends on its capital stock in the foreseeable future. Predix currently intends to retain all available funds and any future earnings to fund the development and growth of its business.

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CAUTIONARY INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

This joint proxy statement/ prospectus includes forward-looking statements within the meaning of the safe harbor provisions of the United States Private Securities Litigation Reform Act of 1995. Words such as anticipate, believes, expect. budget. continue. could. estimate. forecast. intend. potential. predicts. similar expressions are intended to identify such forward-looking statements. Forward-looking statements in this joint proxy statement/ prospectus include, without limitation, statements regarding benefits of the proposed merger and future expectations concerning available cash and cash equivalents, the expected timing of the conclusion of clinical trials, the timing of regulatory filings, and other matters that involve known and unknown risks, uncertainties and other factors that may cause actual results, levels of activity, performance or achievements to differ materially from results expressed in or implied by this joint proxy statement/ prospectus. Such risk factors include, among others:

pro

difficulties encountered in integrating merged businesses;

uncertainties as to the timing of the merger, approval of the transaction by the stockholders of the companies and the satisfaction of closing conditions to the transaction, including the receipt of regulatory approvals, if any;

the competitive environment in the life sciences industry;

whether the companies can successfully develop new products and the degree to which these gain market acceptance;

the success and timing of our pre-clinical studies and clinical trials;

the companies ability to obtain and maintain regulatory approval for their product candidates and the timing of such approvals;

the companies ability to research, develop and commercialize their product candidates;

regulatory developments in the United States and foreign countries; and

the companies ability to obtain and maintain intellectual property protection for their product candidates. Actual results may differ materially from those contained in the forward-looking statements in this joint proxy statement/ prospectus. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this joint proxy statement/ prospectus. All prior and subsequent written and oral forward-looking statements concerning the merger and other matters addressed in this joint proxy statement/ prospectus and attributable to EPIX or Predix or any person acting on their behalf are expressly qualified in their entirety by the cautionary statements included or referred to in this section. Except to the extent required by applicable law or regulation, neither EPIX nor Predix undertakes any obligation to republish revised forward-looking statements to reflect events and circumstances after the date of this joint proxy statement/ prospectus or to reflect the occurrence of unanticipated events.

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RISK FACTORS

You should consider the following risk factors in evaluating whether to vote for the approval and adoption of the merger agreement, the approval of the merger, the approval of the issuance of the EPIX common stock in the merger and/or the approval of the amendment to EPIX s restated certificate of incorporation. These factors should be considered in conjunction with the other information included in this joint proxy statement/ prospectus. References to we, us, our and other first person declarations in these risk factors refer to the operations of the combined company following the completion of the merger. Where we use the words describing either EPIX or Predix, as the case may be, we are referring to such entity as a stand alone company or their respective lines of business and industry as they relate to the combined company.

RISKS RELATING TO THE MERGER

If we are not successful in integrating our organizations, we may not be able to operate efficiently after the merger.

Achieving the benefits of the merger will depend in part on the successful integration of our operations and personnel in a timely and efficient manner. The integration process requires coordination of different development, regulatory, manufacturing and commercial teams, and involves the integration of systems, applications, policies, procedures, business processes and operations. This may be difficult and unpredictable because of possible cultural conflicts and different opinions on scientific and regulatory matters. The combination of EPIX and Predix s organizations may result in greater competition for resources and the elimination of research and development programs that might otherwise be successfully completed. If we cannot successfully integrate our operations and personnel, we may not realize the expected benefits of the merger.

Integrating our companies may divert management s attention away from our operations.

Successful integration of our operations, product candidates and personnel may place a significant burden on our management and our internal resources. The diversion of management s attention and any difficulties encountered in the transition and integration process could result in delays in the companies clinical trial programs and could otherwise harm our business, financial condition and operating results.

We expect to incur significant costs in connection with the merger and in integrating the companies into a single business.

We estimate that EPIX and Predix will incur aggregate direct transaction costs of approximately \$5.5 million associated with the merger. In addition, we expect to incur significant costs integrating our operations, product candidates and personnel, which cannot be estimated accurately at this time. These costs may include costs for: severance;

conversion of information systems;

combining development, regulatory, manufacturing and commercial teams and processes;

reorganization of facilities; and

relocation or disposition of excess equipment.

If the total costs of the merger exceed our estimates, or benefits of the merger do not exceed the total costs of the merger, the financial results of the combined company could be adversely affected.

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We may be unable to repay, repurchase or redeem EPIX s 3.0% Convertible Senior Notes due 2024 if, and when, required.

The entire \$100 million outstanding principal amount of EPIX s 3.0% Convertible Senior Notes will become due and payable at maturity in 2024. In addition, noteholders may require us to repurchase these notes at par, plus accrued and unpaid interest, on June 15, 2011, 2014 and 2019 and upon certain other designated events under the notes, which include a change of control of EPIX or termination of trading of EPIX common stock on The NASDAQ National Market. The definition of change in control set forth in the indenture governing the notes does not include certain mergers and similar transactions that are not deemed a change in control. While we believe that the merger does not constitute a change of control of EPIX under the indenture, we cannot assure you that we will not become obligated to repurchase these notes, in whole or in part, as a result of this merger. Based on the current trading price of EPIX s common stock, we anticipate that in such event most, if not all, of the noteholders would tender their notes for repurchase. We may not have enough funds or be able to arrange for additional financing to repurchase the notes tendered by the holders upon a designated event or otherwise. Any failure to repurchase tendered notes would constitute an event of default under the indenture, which might also constitute a default under the terms of EPIX s other debt. If we are required to repurchase or redeem these notes prior to their maturity, whether as a result of this merger or otherwise, the financial position of the combined company would be materially adversely affected and the anticipated benefits of the merger would be significantly diminished.

If we fail to retain key employees, the benefits of the merger could be diminished.

The successful combination of EPIX and Predix will depend in part on the retention of key personnel. There can be no assurance that we will be able to retain our key management and scientific personnel. If we fail to retain such key employees, particularly those identified in this joint proxy statement/ prospectus as the expected management of the combined company, we may not realize the anticipated benefits of the merger. The business of each of EPIX and Predix is also subject to risks associated with the retention of key employees which are discussed in greater detail below.

If one or more of the product candidates in the combined company cannot be shown to be safe and effective in clinical trials, is not approvable or not commercially successful, then the benefits of the merger may not be realized.

The combined company will have five product candidates in the clinic and several additional product candidates planned to enter clinical testing in the next several years. All of these product candidates must be rigorously tested in clinical trials, and shown to be safe and effective before the U.S. Food and Drug Administration, or FDA, or its foreign counterparts, will consider them for approval. Failure to demonstrate that one or more of the product candidates is safe and effective, or significant delays in demonstrating safety and efficacy, could diminish the benefits of the merger. All of these product candidates must be approved by a government authority such as the FDA before they can be commercialized. Failure of one or more of the product candidates to obtain such approval, or significant delays in obtaining such approval, could diminish the benefits of the merger. Even if approved for sale, these product candidates must be successfully commercialized. Failure to commercialize successfully one or more of these product candidates could diminish the benefits of the merger.

Because Predix stockholders will receive a fixed number of shares of EPIX common stock in the merger, rather than a fixed value, if the market price of EPIX common stock declines, Predix stockholders will receive consideration in the merger of lesser value and if the market price of EPIX common stock increases, EPIX will pay consideration in the merger of greater value.

The aggregate number of shares of common stock of EPIX to be issued to Predix stockholders is fixed. Accordingly, the aggregate number of shares that Predix stockholders will receive in the merger will not change, even if the market price of EPIX common stock changes. In recent years, the stock market in general, and the securities of biotechnology companies in particular, including EPIX s securities, have

experienced extreme price and volume fluctuations. These market fluctuations may adversely affect the market price of EPIX common stock. The market price of EPIX common stock upon and after the consummation of the merger could be lower than the market price on the date of the merger agreement or the current market price, which would decrease the value of the consideration to be received by Predix stockholders in the merger. Predix stockholders should obtain recent market quotations of EPIX common stock before they vote on the merger.

In addition, the market price of EPIX common stock upon and after the consummation of the merger could be higher than the market price on the date of the merger agreement or the current market price. As a result of the fixed number of shares of EPIX common stock issuable in the merger, increases in the market price of the EPIX common stock would increase the value of the consideration payable by EPIX in the merger. EPIX stockholders should obtain recent market quotations of EPIX common stock before they vote on the matters set forth in this joint proxy statement/ prospectus.

The merger may fail to qualify as a reorganization for U.S. federal income tax purposes, resulting in recognition of taxable gain or loss by Predix stockholders in respect of their Predix stock.