

Mail Stop 6010

June 20, 2006

Dr. Andrew Uprichard
President
EPIX Pharmaceuticals, Inc.
161 First Street
Cambridge, Massachusetts 02142

**Re: EPIX Pharmaceuticals, Inc.
Amendment No. 1 to the Registration Statement on Form S-4
File No. 333-133513**

Dear Mr. Uprichard:

We have reviewed your filings and have the following comments. Where indicated, we think you should revise your documents in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form S-4

United States Tax Consequences of the Merger, page 6

1. We note your response to comment 7 and the inclusion of a cross-reference to another section of the document that discusses the tax consequences of the merger transaction. We do not believe the cross-reference sufficiently satisfies our comment. Therefore, our comment is reissued in part. Please revise this section to clearly state that Predix shareholders will pay taxes on the amount of gain recognized.

Notes to Unaudited Pro Forma Condensed Consolidated Financial Statements
Note 2. Purchase Price, page 13

2. We acknowledge your response to comment 11 of our letter dated May 22, 2006. Please clarify for us how you will account for the stock consideration that you may issue in conjunction with your contingent milestone payment under SFAS No. 133, as paragraph 11c. of SFAS No. 133 appears to scope the accounting for the contingent consideration payment out of SFAS No. 133. Additionally, please clarify whether you will recognize the milestone payment on the achievement date and tell us whether and how you will account for the difference between the fair value of the stock on the milestone achievement date and the value of the stock based on the terms of the merger agreement.

“Predix’s drug candidates require significant biological testing, pre-clinical testing . . .,” page 49

3. We note your response to our comment 39 and your identification of two entities that provide you with manufacturing and testing services. To the extent you have any agreements with these entities, please revise your Business section to include the material terms of the agreements you may have with. You should also file the agreements as exhibits. If you do not believe that you are substantially dependent on these agreements, please provide us with a detailed explanation explaining why.

Background of the Merger, page 62

4. We note your response to comment 42 and your supplemental response as to why the non-public information exchanged between you and third parties, including Predix, should not be disclosed in your document. Please provide us with a detailed and substantive analysis explaining why each of the specific non-public information contained in Annex A is not material to investors and how such information has been superseded publicly by subsequent publicly disclosed information. We may have further comments upon reviewing your response.
5. We note the revised disclosure you make in the first full paragraph on page 63 where you discuss the ten companies, other than Predix, that you were considering as potential merger candidates. Please expand your discussion by indicating whether you had any responses, offers, conversations or any other communications with these ten companies. Please also describe the content of those discussions and communications.
6. We note the revised disclosure you make in the penultimate paragraph on page 63 where you discuss the other possible merger candidates that Predix considered. Please expand this section to include information on what offers Predix received, including the terms of and also disclose why Predix accepted the offer made by Epix over any other offers.
7. You indicate in the last full paragraph on page 63 that five merger candidates, including Predix, made presentations to the Epix board and that based on the presentations and certain due diligence, the Epix board determined that Predix was an attractive merger candidate. Please disclose the terms of any merger proposal that you received from these

merger candidates and the basis for your conclusion that Predix was an attractive merger candidate.

Strategic Alliances and Collaborations, page 140

8. We note your response to our comment 82 and your supplemental response that you do not believe your agreement with Dyax is material to your business. Please provide us with a detailed analysis explaining the reasons why you do not believe your agreement or relationship with Dyax is not material to you.

Epix Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies and Estimates
Revenue Recognition, page 149

9. We acknowledge your response to comment 92 of our letter dated May 22, 2006. Please provide us your analysis under EITF No. 99-19 or any other applicable literature under U.S. GAAP as to why you believe it is appropriate to record the net reimbursement of development costs as product development revenue. It would appear that this collaboration agreement, in its present state, is a cost sharing arrangement where costs are shared jointly and is not for services provided to Schering AG.
10. We acknowledge your response to comment 92 of our letter dated May 22, 2006. Please tell us and disclose how you estimate product development revenue related to the Vasovist development program with Schering AG during each reporting period. That is, clarify how you estimate the 50% reduction to your eligible reimbursement amount from Schering AG each period. Tell us and disclose how often Schering AG provides you with information regarding their actual incurred development costs and how accurate your estimate of their costs has been, historically, each period. Quantify for us and disclose any related material changes in estimate and tell us how you reflected those changes in your financial statements for the periods presented.
11. We acknowledge your response to comment 93 of our letter dated May 22, 2006. It appears that you are utilizing the proportional performance method to recognize revenue related to the \$9 million received from Schering AG related to your EP-2104R agreement. Please provide us with additional information, as follows:
 - Clarify what deliverable(s) is(are) due to Schering AG under the EP-2104R agreement;
 - Clarify whether the \$9 million fixed fee is refundable and outline both your rights and Schering AG's enforceable rights under the contract as they relate to the \$9 million fixed fee;
 - Consider the provisions of SOP 81-1 and tell us how you concluded that you are able to make "reasonably dependable estimates" of your costs to complete the clinical feasibility study each period;

- Tell us whether you are obligated to provide evidence of performance under the contract to Schering AG during each reporting period, including evidence of your estimated costs to complete the clinical feasibility study; and
- Please tell us how you concluded that your methodology is more systematic than a straight-line methodology, as discussed in SAB No. 104, Topic 13(A)(3)(f). It would seem that if you can reasonably estimate your costs to complete the clinical feasibility study then you can reasonably estimate the underlying period of completion.

Epix Financial Statements

Notes to Financial Statements

Note 12. Strategic Alliances and Collaborations

Tyco/Mallinckrodt, page F-22

12. Please revise your disclosure to clarify whether the license that Epix granted to Tyco/Mallinckrodt to manufacture Vasovist is separate from Tyco/Mallinckrodt's license of technology back to Epix and specify whether that license is tied to Epix' collaboration agreement with Schering AG for Primovist, as "described above" does not make that clear for investors. Please also tell us how you will account for the various payments remitted and received under these arrangements, citing the applicable authoritative literature under U.S. GAAP, as it appears that these payments and receipts are all interrelated.

Predix Consolidated Financial Statements

Notes to Consolidated Financial Statements

Note 2. Summary of Significant Accounting Policies

Stock-Based Compensation, page F-46

13. Please tell us what is meant by accounting for stock option awards prior to January 1, 2006 on "an accelerated basis" and clarify your disclosure accordingly. Additionally, please revise or remove the tabular disclosure on page F-47 to clarify that you did not issue any option awards during the period ended March 31, 2006, as the "n/a" designation is misleading, particularly when you have disclosed a volatility estimate.

Annex A—Merger Agreement

14. We note your response to our comment 108 and reissue the comment. You indicate supplementally that the company has included all schedules and exhibits to the merger agreement required to be filed under Item 601(b)(2) of Regulation S-K with the copy of the merger agreement included as Annex A to the registration statement. Please explain to us why you believe you have complied with Item 601(b)(2) as it appears you have not provided some of the schedules. For example, we note that you have not filed Schedules 2 and 4, which appear to identify key Epix and Predix employees, nor does it appear the information contained in those schedules is disclosed in your document. If you do not believe the omitted schedules are material or otherwise have been disclosed in the document, please provide us with a legal analysis explaining why the omitted schedules

are not material and/or where in the document we may find the information from the omitted schedules.

* * *

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested supplemental information. Detailed cover letters greatly facilitate our review. Please file your cover letter on EDGAR under the form type label CORRESP. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Amy Bruckner at (202) 551-3657 or Joseph Roesler, Accounting Branch Chief at (202) 551-3628 if you have questions regarding comments on the financial statements and related matters. Please contact Song Brandon at (202) 551-3621, Suzanne Hayes, Legal Branch Chief at (202) 551-3675, or me at (202) 551-3715 with any other questions.

Sincerely,

Jeffrey Riedler
Assistant Director

cc: William T. Whelan, Esq.
Daniel T. Kajunski, Esq.
Mintz, Levin, Cohn, Ferris, Glovsky and Popeo P.C.
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