[BioCryst Letterhead]

Mr. Jim Rosenberg
Senior Assistant Chief Accountant
Division of Corporation Finance
U.S. Securities & Exchange Commission
100 F Street, NW
Washington, DC 20001-2016

Re: *BioCryst Pharmaceuticals, Inc.*
Form 10-K for the Fiscal Year Ended December 31, 2007
File No. 0-23186; Form 10-Q for the Quarter Ended March 31, 2008;
Form 10-Q for the Quarter Ended June 30, 2008

Dear Mr. Rosenberg:

This letter responds to your letter dated October 31, 2008 in connection with the above referenced file. To facilitate your review, we have reproduced your comments in bold below and have provided our response immediately following your comment.

Form 10-K for the Fiscal Year Ended December 31, 2007

1. **We note your response to our prior comment 1 and the proposed changes to the disclosure that will be included in future filings. Please expand your disclosure to also discuss the following information:**

   - **In your discussion of the *Mundipharma* corporate alliance, please disclose the percentage range of royalties (i.e., single digits, low teens, high teens, etc.).**

   - **In your discussion of the *AECOM and IRL* academic alliance, please disclose the aggregate potential milestone payments, the annual license fee, the percentage range of royalties on future sales of any resulting product, and each party's other rights and obligations.**

- **In your discussions of the *UAB* and *Emory* academic alliances, please disclose the percentage range of royalties.**

In response to your comment, we have further revised our disclosure and have included the information you requested above. Exhibit A is a sample of our revised disclosure, which has been redlined for convenience to show the information added since our last Form 10-K filing.

Form 10-Q for the quarter ended June 30, 2008

2. **We noted your response to our comment 8. Please tell us how you are accounting for the remaining portion of the revenue related to this contract (HHS). It would appear that the company's ability to estimate revenues related to the remaining portion of the HHS contract would be diminished as a result of HHS's change in reimbursable costs structure.**

The Company's contract with HHS is a cost-plus-fixed-fee contract. That is, we are entitled to receive reimbursement for all reasonable and allowable costs incurred in accordance with the contract provisions that are related to the development of peramivir plus a fixed fee, or profit. As outlined in Staff Accounting Bulletin No. 104, Revenue Recognition, and Accounting Research Bulletin No. 43, Chapter 11, Section A, Government Contracts, Cost-Plus-Fixed-Fee Contracts, the Company has and continues to recognize revenue as reimbursable costs are incurred under the contract with HHS. The Company does not estimate revenues based on percentage of contract completion or any other method of revenue recognition.

As disclosed in our initial response, the Company announced in January 2008 that the development plan for peramivir had changed and that HHS would only fund certain elements of the revised program. This decision by HHS did not change or alter the reimbursable cost structure of the Company's contract or the Company's accounting related to the contract. The Company is currently executing the development plan for peramivir that has been approved by HHS. We will only recognize revenue related to this approved development plan and only up to the specified limits of the contract. We have not recognized revenue in excess of the contract amount of $102.6 million.

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The Company acknowledges that it is responsible for the adequacy and accuracy of the disclosure in the filing; staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and the Company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

If you have any questions, please contact our outside corporate counsel, Brian Lane of Gibson, Dunn & Crutcher LLP at (202) 887-3646.

Sincerely,

/s/ Stuart Grant

Stuart Grant
Senior Vice President & Chief Financial Officer

Cc: Jon Stonehouse
Mike Darwin
Alane Barnes
Brian Lane
Mike Mills

EXHIBIT A

Collaboration and In-License Relationships

We seek to enter into collaborations with leading pharmaceutical and biotechnology companies when we feel it is advantageous to leverage these companies' resources to develop and commercialize our drug candidates on a global basis. This allows us to remain focused on our strength of early stage discovery and development of drug candidates. To date, we have two major collaborations for the development and commercialization of our lead PNP inhibitors and two collaborations for the development and commercialization of peramivir in certain countries outside the U.S. In addition, in January 2007, we announced that HHS had awarded the Company a $102.6 million, four-year contract for the advanced development of peramivir for U.S. licensure.

Another important component of our strategy is to augment our internal discovery programs through the selective in-licensing of potential drug development targets or early stage compounds for these specific targets. For example, our PNP inhibitors were in-licensed from AECOM and IRL in June 2000.

Corporate Alliances

Roche. In November 2005, we entered into an exclusive license with Roche for the development and commercialization of our second generation PNP inhibitor, BCX-4208, for the prevention of acute rejection in transplantation and for the treatment of autoimmune diseases. Under the terms of the agreement, Roche obtained worldwide rights to BCX-4208 in exchange for an up-front payment of $30 million, which included a payment as reimbursement for a limited supply of material during the first 24 months of the collaboration. The license also provided for future milestone event payments for achieving specified development, regulatory and commercial milestones (including sales level milestones following a product's launch) for certain indications. In addition, the license provided for the Company to receive royalties based on a percentage of net product sales, which varies depending upon when certain indications receive New Drug Application ("NDA") approval in a major market country and can vary by country depending on the patent coverage or sales of generic compounds in a particular country. We licensed this compound and other PNP inhibitors from AECOM and IRL and will owe sublicense payments to these third parties on any upfront payment, future event payments and royalties received by us for the sublicense of these inhibitors.

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Roche has a right of first negotiation, under certain conditions, on existing backup PNP inhibitors we develop through Phase IIb in transplant rejection and autoimmune diseases, but any new PNP inhibitors are exempt from this agreement and we retain all rights to such compounds. We retain the right to co-promote BCX-4208 in the U.S. for certain indications. Roche has certain obligations under the terms of the agreement to use commercially reasonable efforts to develop, manufacture and commercialize the licensed product. The agreement may be terminated by either party following an uncured material breach by the other party or may be either fully or partially terminated by Roche without cause under certain conditions and all rights, data, materials, products and other information would be transferred to the Company. For termination without cause, the effective date of termination is 180 days from the date of notice.

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In May 2008 the Company received notice that Roche was exercising the "no cause" termination right under the license agreement for BCX-4208. Upon termination, the Company will recognize the remaining deferred revenue and deferred expense related to the license agreement, which are $27.3 million and $8.4 million, respectively, as of March 31, 2008.

Mundipharma. In February 2006, the Company entered into an exclusive, royalty bearing right and license in the specified territory (primarily Europe, Asia and Australia) with Mundipharma for the development and commercialization of our lead PNP inhibitor, forodesine HCl, for use in oncology. Under the terms of the agreement, Mundipharma obtained oncology rights to forodesine HCl in the specified territory in exchange for a $10 million up-front payment. Mundipharma will share 50% of the documented third party development costs incurred by us in respect of our current and planned trials as of the effective date of the agreement provided that Mundipharma's maximum contribution to these trials shall be $10 million. In addition, Mundipharma will conduct additional clinical trials at their own cost up to a

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maximum of $15 million. The license provides for possibility of future event payments totaling $155million for achieving specified development, regulatory and commercial events (including certain sales level amounts following a product's launch) for certain indications. In addition, the agreement provides that we will receive royalties (ranging from single digits to mid teens) based on a percentage of net product sales, which varies depending upon when certain indications receive NDA approval in a major market country and can vary by country depending on the patent coverage or sales of generic compounds in a particular country. Generally, all payments under the agreement are nonrefundable and non-creditable, but they are subject to audit. We licensed this compound and other PNP inhibitors from AECOM and IRL and will owe sublicense payments to these third parties on the upfront payment, future event payments and royalties received by us for the sublicense of these inhibitors.

Within five years of the effective date of the agreement, Mundipharma has a right of first negotiation on existing backup PNP inhibitors we develop through Phase IIb in oncology, but any new PNP inhibitors are exempt from this agreement and we retain all rights to such compounds. We retain the rights to forodesine HCl in the U.S. and Mundipharma is obligated by the terms of the agreement to use commercially reasonable efforts to develop the licensed product in the territory specified by the agreement. The agreement will continue for the commercial life of the licensed products, but may be terminated by either party following an uncured material breach by the other party or in the event the pre-existing third party license with AECOM and IRL expires. It may be terminated by Mundipharma upon 60 days written notice without cause or under certain other conditions as specified in the agreement and all rights, data, materials, products and other information would be transferred to us at no cost. In the event we terminate the agreement for material default or insolvency, we could have to pay Mundipharma 50% of the costs of any independent data owned by Mundipharma in accordance with the terms of the agreement.

Shionogi. In March 2007, the Company entered into an exclusive license agreement with Shionogi to develop and commercialize the Company's lead influenza neuraminidase inhibitor, peramivir, in Japan for the treatment of seasonal and potentially life-threatening human influenza. Under the terms of the agreement, Shionogi obtained rights to injectable formulations of peramivir in Japan in exchange for a $14 million up-front payment. The license provides for potential future milestone event payments (up to $21 million) and commercial event milestone payments (up to $95 million) in addition to double digit (between 10 and 20% range) royalty payments on product sales of peramivir. In December 2007, the Company received a $7 million milestone payment from Shionogi for their initiation of a Phase II clinical trial with i.v. peramivir. Generally, all payments under the agreement are nonrefundable and non-creditable, but they are subject to audit. Shionogi will be responsible for all development, regulatory and marketing costs in Japan. The term of the agreement is from February 28, 2007 until terminated by either party in accordance with the license agreement. Either party may terminate in the event of an uncured breach. Shionogi has the right of without cause termination. In the event of termination all license and rights granted to Shionogi shall terminate and shall revert back to the Company. The Company developed peramivir under a license from UAB and will owe sublicense payments to them on the upfront payment and any future event payments and/or royalties received by the Company from Shionogi. The Company retains all rights to commercialize peramivir in North America, Europe, and other countries outside of Korea and Japan.

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Green Cross Corporation ("Green Cross"). In June 2006, the Company entered into an agreement with Green Cross to develop and commercialize peramivir in Korea. Under the terms of the agreement, Green Cross will be responsible for all development, regulatory, and commercialization costs in Korea. The Company received a one-time license fee of $250,000. Total future milestone payments would be equally modest. The license also provides that the Company will share in profits resulting from the sale of peramivir in Korea, including the sale of peramivir to the Korean government for stockpiling purposes. Furthermore, Green Cross will pay the Company a premium over its cost to supply peramivir for development and any future marketing of peramivir products in Korea. Both parties have the right to terminate in the event of an uncured material breach. In the event of termination all rights, data, materials, products and other information would be transferred to the Company.

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Academic Alliances

Albert Einstein College of Medicine of Yeshiva University and Industrial Research, Ltd, New Zealand. In June 2000, we licensed a series of potent inhibitors of PNP from AECOM and IRL. The lead drug candidates from this collaboration are forodesine HCl and BCX-4208. We have obtained worldwide exclusive rights to develop and ultimately distribute these compounds or any other drug candidates that might arise from research on these inhibitors. We have the option to expand the Agreement to include other inventions in the field made by the investigators or employees of AECOM and IRL. We have agreed to use commercially reasonable efforts to develop these drugs. In addition, we have agreed to pay certain milestone payments for each licensed product (which range in the aggregate from $1.4 million to almost $4 million per indication) for future development of these inhibitors, single digit royalties on net sales of any resulting product made by us, and to share approximately one quarter of future payments received from other third-party partners, if any. In addition, we have agreed to pay annual license fees which can range from $150,000 to $500,000 depending on stage of development of products that is non-refundable, but is creditable against actual royalties and other payments due to AECOM and IRL. This agreement may be terminated by us at any time by giving 60 days advance notice or in the event of material uncured breach by AECOM and/or IRL.

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The University of Alabama at Birmingham. We have had a close relationship with UAB since our formation. Our former Chairman, Dr. Charles E. Bugg, was the previous Director of the UAB Center for Macromolecular Crystallography, and our Chief Operating Officer, Dr. J. Claude Bennett, was the former President of UAB, the former Chairman of the Department of Medicine at UAB and a former Chairman of the Department of Microbiology at UAB. Several of our early programs originated at UAB.

We currently have agreements with UAB for influenza neuraminidase and complement inhibitors. Under the terms of these agreements, UAB performed specific research for us in return for research payments and license fees. UAB has granted us certain rights to any discoveries in these areas resulting from research developed by UAB or jointly developed with us. We have agreed to pay single digit royalties on sales of any resulting product and to share in future payments received from other third-party partners. We have completed the research under both the complement and influenza agreements. These two agreements have initial 25-year terms, are automatically renewable for five-year terms throughout the life of the last patent and are terminable by us upon three months notice and by UAB under certain circumstances. Upon termination both parties shall cease using the other parties proprietary and confidential information and materials, the parties shall jointly own joint inventions and UAB shall resume full ownership of all UAB licensed products. There is currently no activity between us and UAB on these agreements, but when the Company licenses this technology, such as in the case of the Shionogi and Green Cross agreements, or commercialize products related to these programs, we will owe sublicense fees or royalties on amounts we receive.

Emory. In June 2000, we licensed intellectual property from Emory related to the HCV polymerase target associated with hepatitis C viral infections. Under the original terms of the agreement, the research investigators from Emory provided us with materials and technical insight into the target. We have agreed to pay Emory single digit royalties on sales of any resulting product and to share in future payments received from other third party partners, if any. We can terminate this agreement at any time by giving 90 days advance notice. Upon termination, Biocryst would cease using the licensed technology.

Government Contracts

In January 2007, we announced that HHS had awarded the Company a $102.6 million, four-year contract for the advanced development of peramivir. In January 2008, we announced the development cost of our peramivir program to product approval would cost in excess of the $102.6 million contract since the development plan for peramivir has changed from that outlined in the original proposal to HHS. HHS has indicated that they will fund certain elements of our revised program, including the ongoing Phase II i.v. study in hospitalized subjects, planning and conduct of the planned Phase II i.m. study, manufacturing and toxicology. Each of these elements has specific HHS funding limits and costs outside the approved

amounts by HHS may be the responsibility of the Company. The original contract of $102.6 million and the four year term remain unchanged. HHS has indicated that antiviral drugs are an important element of their pandemic influenza preparedness efforts and that their strategy includes not only stockpiling of existing antiviral drugs but also seeking out new antiviral medications to further broaden their capabilities to treat and prevent all forms of influenza. Peramivir is in the same class of neuraminidase inhibitors as oseltamivir (Tamiflu) and zanamivir (Relenza), all of which are antiviral drugs, but the method of delivery for peramivir will be parenteral (i.m. and i.v.) as compared to the oral Tamiflu or inhaled Relenza. We are committed to working with HHS for the development of these parenteral formulations of peramivir which could be especially useful in hospital settings or pandemic situations due to the ability to achieve high levels of the drug rapidly throughout the body.

This contract is a cost-plus-fixed-fee contract, which is milestone-driven. HHS will make periodic assessments of progress and the continuation of the contract is based on our performance, timeliness and quality of deliverables, and other factors. The government has rights under certain contract clauses to terminate this contract. The contract is terminable by the government at any time for breach or without cause.