



DIVISION OF
CORPORATION FINANCE

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

April 6, 2011

Ms. Adelene Q. Perkins
President and Chief Executive Officer
Infinity Pharmaceuticals, Inc.
780 Memorial Drive,
Cambridge, Massachusetts 02139

**Re: Infinity Pharmaceuticals, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
File No. 000-31141**

Dear Ms. Perkins:

We have completed our review of your filing and do not have any further comments at this time.

Sincerely,

Gus Rodriguez
Accounting Branch Chief