

## CNAT Management meeting notes

### What's Incremental

We hosted an investor dinner with CNAT's CEO & CFO and discussed progress on clinical plans & funding. In ACLF, 6 of 12 US trial sites complement 17 UK sites, which should finish by mid-14, with data expected in 2H14/1H15. NASH interest is high though CNAT emphasized POLT is the primary means to initially develop emricasan. Tight expense mgmt. should provide 2 years of funding. Emricasan combinations remain a high potential area of interest along with initial Ph-II ACLF results. Our heavily risk adjusted sales forecast suggests upside to our \$17 DCF-based price target.

### ACLF top line results in 2H14, detailed data in 2015

The Ph-II pharmacokinetic (PK) study of emricasan for ACLF now has 6 of 12 US sites active (with the rest by March) in addition to the 17 UK sites (CNAT is also studying severe renal patients in a separate Ph-I PK/safety trial). In addition to gathering data for the primary endpoints, these studies are critical in that they can identify heterogeneity for a potential Ph-III study population, help refine inclusion/exclusion criteria & train sites for Ph-III trials. The ACLF study has more severely decompensated patients than prior trials, which could provide additional insight into dosing. While top line results should come out in late 2H14 (after AASLD), it appears that the ACLF data won't be presented at a major liver meeting in '14.

### High interest in NASH, but POLT still the path to proof of efficacy

In response to multiple investors posing questions on NASH, management viewed CNAT as a potential fast follower rather a trailblazer given the undefined regulatory pathway (especially in the US). CNAT continues to expect to start a NASH trial by 2H14 with the POLT & CLF trials to follow. POLT remains the primary avenue by which CNAT intends to demonstrate emricasan's efficacy in treating fibrosis. We conservatively assume a 15% probability of success across these potential indications with 2020E risk-adjusted sales of just \$106M & 2028E sales of \$425M. As data emerges over the next few quarters, rising visibility should drive share performance. ([click here to see our 32pg. CNAT initiation report & models](#)).

### Cash burn on track, raise or partnership both options for 2015

CNAT's CFO indicated no change in its 18-mo cash burn rate, which funds trials/operations into 2H15. CNAT anticipates spending about half of its recent IPO proceeds this year & would consider approaching the market again next year. CNAT only has 25 employees & expects to exit 2014 with ~28 to 30. CNAT is also contemplating partnerships for non-U.S./western Europe geographies with companies that would provide not only capital & distribution capabilities but also other development capacities. We believe that the timing for a potential partnership announcement could come next yr. especially if Ph-2 ACLF results are favorable. (see pg. 2 for 2014 catalysts).

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### Buy

Price Target: \$17.00  
Prior: \$17.00

Price (Feb. 11, 2014)	\$9.76
52-Wk Range	\$14.25-\$5.96
Market Cap (\$M)	\$152
ADTV	363,360
Shares Out (M)	15.6
Short Interest Ratio/% Of Float	10.2%
Dividend/Yield	\$0.00/0.0%
TR to Target	74.2%

Total Debt	\$1.0
BV/Share	\$4.98
Cash And Equivalents (\$M)	\$59.0

	2012A	2013E	2014E		
		Curr.	Prior	Curr.	Prior
<b>EPS</b>					
1Q	(\$0.21)	(\$0.25)A	(\$0.25)	(\$0.27)	(\$0.27)
2Q	(\$1.81)	\$0.16A	\$0.16	(\$0.30)	(\$0.30)
3Q	--	(\$0.28)A	(\$0.28)	(\$0.37)	(\$0.37)
4Q	--	(\$0.28)	(\$0.28)	(\$0.35)	(\$0.35)
FY	(\$0.95)	(\$0.65)	(\$0.65)	(\$1.29)	(\$1.29)
P/E	NM	NM		NM	
<b>Revenue (\$M)</b>					
FY	\$0	\$0	\$0	\$0	\$0
FYE Dec					

**2014 Catalysts**

Key events that could move CNAT shares are: 1) top line Phase IIb ACLF results in 1H14; 2) initiation of Phase II NASH trial in 1H14; 3) initiation of the Phase IIb CLF & POLT trials in 2H14.

### Company Description

Conatus Pharmaceuticals, Inc. is a clinical-stage biotechnology company focused on developing drugs to treat liver diseases. The company's lead compound, emricasan, is a first-in-class, orally active pan-caspase inhibitor designed to reduce inflammation and cell death, thereby disrupting the pathway leading to liver fibrosis and cirrhosis. The company is currently focused on developing emricasan for the treatment of patients with acute-on-chronic liver failure (ACLF), chronic liver failure (CLF), and HCV-related post-orthotopic liver transplants (HCV-POLT). In 2005, Pfizer acquired emricasan from Idun Pharmaceuticals (Conatus's predecessor company). In 2010, Conatus re-acquired emricasan from Pfizer and is continuing to develop it through the clinical stage process.

### Investment Thesis

We rate CNAT a Buy with a \$17 price target given its attractive risk-reward based on our conservative revenue and DCF assumptions. Our valuation analysis applies a significant discount rate appropriate for early clinical-stage companies to our heavily risk adjusted revenue and cash flow estimates, which suggests that CNAT's shares are undervalued. We view CNAT as a pioneer in the development of its 1st-in-class oral caspase protease inhibitor, emricasan, for treating liver disease & fibrosis. We view the clinical development and regulatory risks as high due to the challenging patient population. CNAT has attempted to minimize this risk through the favorable histological data that it has presented and pre-clinical studies that have had some conflicting results in key biomarkers for cell death and inflammation. On the regulatory front, there is uncertainty on the use of surrogate endpoints in liver disease clinical trials and their potential clinical utility in a patient population that frequently has other co-morbidities and high mortality rates. In Europe, regulators have expressed greater acceptance of surrogate endpoints in orphan liver trials, while in the US Conatus remains in ongoing discussions with the FDA regarding clinical trial design for emricasan. Our model assumes initial EU launches in chronic liver failure (CLF) & acute-on-chronic liver failure (ACLF) in 2017E, & Hepatitis C virus-related post-orthotopic liver transplant (HCV-POLT) in 2018E. In the US, we assume a CLF launch in 2018E, ACLF in 2019E & HCV-POLT in 2020E. However, given that lack of a clear pathway to US approval, Conatus could potentially be required to conduct additional trials which would not only result in longer timelines than we have modeled but also greater capital requirements. We view the commercial risk as low and offering a high degree of operating leverage since only 16/12 US/EU sales representatives would be needed to cover >90% of the liver transplant centers. In addition, the three potential orphan disease populations targeted have a high unmet medical need and represent a large market opportunity through the US/EU exclusivity periods of 2028/2027 withstanding any patent challenges and excluding any extensions. If Conatus is able to navigate the clinical and regulatory risks for emricasan, our 15 % risk adjustment to our \$430M revenue assumption in 2028E could prove to be overly conservative. Consequently, any upward revision to our sales forecast would have material upside to Conatus's earnings power as well as its intrinsic value.

### Valuation and Risks

#### Valuation

Conatus is a clinical stage company unlikely to achieve either revenues or profitability until the latter part of the decade, so we primarily value the company using a discounted cash flow (DCF) analysis. Also, the paucity of 2018+ consensus revenue and profitability estimates for most clinical stage and orphan disease companies makes valuing CNAT shares difficult; hence we do not include a peer group comparison in our valuation analysis. In our DCF we apply an estimated WACC of 16.7% and terminal growth rate of 1.0% to Conatus's projected free cash flows from the present through its 2028 exclusivity period. The present value of Conatus's 2013E-2028E cash flows are approximately \$140 million and the present value of its estimated terminal value is \$105 million. Adjusted for its average 2012A/2013E net cash position, our discounted cash flow valuation analysis of CNAT shares suggests an intrinsic value of approximately \$17 per share. We have also tested our DCF assumptions below by varying our estimated WACC and terminal growth rates in 50 basis points (bps) increments. Each 50 bps deviation from our WACC changes the intrinsic value by approximately 8%, whereas each 50 bps increment in the assumed terminal growth rate changes the intrinsic value by approximately 2%.

We would note that a significant portion of our estimate is derived from: 1) projected cash flows for 2018E and beyond which is the earliest timeframe that we forecast Conatus to become cash flow positive, and 2) the estimated present value of terminal value accounts for a large portion of our intrinsic value. Our model also assumes that Conatus will utilize its existing \$105M and anticipated

net operating losses (NOLs) to offset future tax expenses. Additionally, the projected cash flows in our model could differ materially from our estimate should Conatus fail to garner initial EU and US approval or other subsequent indications for emricasan.

### **Risks**

Downside risks to our price target (PT) include: 1) regulatory risk since no drugs are approved in the liver diseases Conatus is targeting (acute-on-chronic liver failure (ACLF), chronic liver failure (CLF), and HCV-related post-orthotopic liver transplant (HCV-POLT), and regulators could require trial designs that increase the risk of securing approval (especially in the US); 2) clinical development risk since the endpoints in planned clinical trials have not demonstrated benefits in these populations; 3) uncertainty over the acceptability and predictive power of blood markers for inflammation and cell death used in future clinical trials. This risk is heightened by conflicting preclinical data that showed conflicting results in liver enzyme reduction, which creates risk for future clinical studies of emricasan; 4) dilution risk given future capital requirements to advance emricasan through the clinical, regulatory and commercial phases of the products life cycle. Upside risks to our PT includes overly conservative risk adjustments to the probability of clinical trial success for emricasan. If emricasan successfully advances through the clinical, regulatory and commercial stages, our estimates could prove conservative and provide upside to our PT.

### **Analyst Certification**

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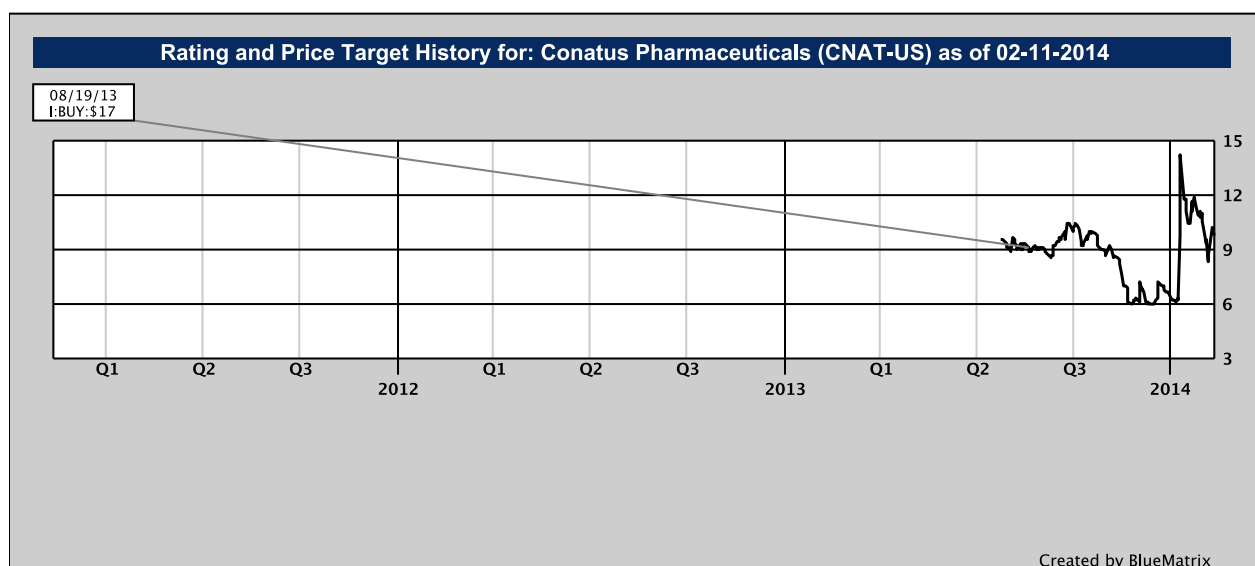
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Legend for Rating and Price Target History Charts:

D = drop coverage

I = initiate coverage

T = transfer coverage

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