

## Coherus

### A Pure-Play on the Emerging Biosimilar Opportunity: Initiating Coverage with an OW Rating and \$20 Price Target

We are initiating coverage of Coherus BioSciences with an OW rating and \$20 YE15 price target. Coherus is a pure-play biosimilar company with three lead molecules, all of which are expected to be in late-stage trials by 2015 and potentially launching in the 2016-17 time frame. With a strong and highly experienced management team, we see the company as well positioned within an emerging biosimilar market, where even modest market share penetration could translate into significant sales.

- **We see biosimilars as having meaningful commercial value over time.** We expect to see a range of biosimilars launched over the next 5-10 years with biologic products with ~\$100 billion in annual sales losing patent protection through 2020 and following the establishment of biosimilar approval pathways in most developed markets. Given the significant branded sales in these markets, even modest market penetration would translate to a significant biosimilar commercial opportunity. Further, we see biosimilars generating attractive operating margins over time, particularly as these products are expected to have branded pharmaceutical-like gross margins.
- **Coherus is a pure-play on the upcoming biosimilar opportunity with three lead products, all of which will be in phase III by 2015.** Coherus is a pure-play on this opportunity with all three of its lead biosimilar candidates (biosimilar versions of Humira, Enbrel and Neulasta) expected to be in full phase III development by early 2015 and positioned to enter the market in 2016 or 2017. Assuming modest biosimilar penetration and 4-5 competitors per market, we see Coherus generating ~\$450mm in sales by 2020, growing to ~\$850mm by 2025.
- **Legal and commercial uncertainties represent key risks in the story.** As biosimilars are still very much an evolving market, particularly in the US, we see updates on the clinical, legal and commercial elements of the biosimilar market to represent catalysts for CHRS shares. We will closely watch dynamics around remaining originator patents (which could potentially delay time-to-market) and the biosimilar commercial model, which we see as primary risks in the CHRS story.
- **December 2015 risk-adjusted price target of \$20 is based on DCF analysis.** We assume a 2017 US entry for CHS-1701 (Coherus's biosimilar version of Neulasta) and a late-2017 US entry for CHS-1420 (Coherus's biosimilar version of Humira). In addition, we anticipate Coherus will enjoy milestones and a royalty on sales of Baxter's biosimilar Enbrel, which is expected to launch in Europe in 2017.

#### Coherus BioSciences, Inc. (CHRS;CHRS US)

FYE Dec	2012A	2013A	2014E	2015E	2016E
EPS Adjusted (\$)					
Q1 (Mar)	-	-	-	-	-
Q2 (Jun)	-	-	-	-	-
Q3 (Sep)	-	-	-	-	-
Q4 (Dec)	-	-	-	-	-
FY	(9.51)	(9.66)	(5.62)	(2.98)	(3.05)

Source: Company data, Bloomberg, J.P. Morgan estimates.

### Initiation Overweight

CHRS, CHRS US

Price: \$13.37

Price Target: \$20.00

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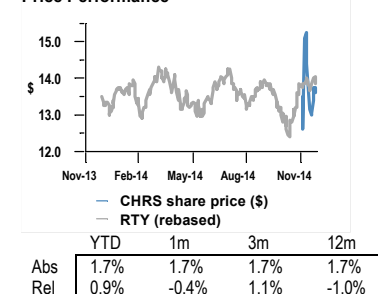
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#### Price Performance



#### Company Data

Price (\$)	13.37
Date Of Price	01 Dec 14
52-week Range (\$)	16.25-12.27
Market Cap (\$ mn)	178,977.50
Fiscal Year End	Dec
Shares O/S (mn)	13,387
Price Target (\$)	20.00
Price Target End Date	31-Dec-15

#### See page 33 for analyst certification and important disclosures.

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## Investment Thesis

### Coherus BioSciences (CHRS)

#### Overweight

#### **We see biosimilars as having meaningful commercial value over time**

We expect a range of biosimilars will launch over the next 5-10 years with biologic products with ~\$100 billion in annual sales losing patent protection through 2020. Following the establishment of biosimilar approval pathways in the US and most developed markets, biosimilar manufacturers now have a path to market – and given the significant branded sales in these markets, even modest biosimilar market share would translate to a significant commercial opportunity.

While we do not expect originators will easily cede share to biosimilar manufacturers, we see payers as highly incentivized to move patients to biosimilars and believe that physicians are willing to start new patients on approved biosimilars. In addition, we believe Coherus has focused on products in markets that are particularly receptive to biosimilars both from a physician and payer perspective.

#### **Coherus is a pure-play on the upcoming biosimilar opportunity with three products entering phase III by 2015**

Coherus is a pure-play on this opportunity with three lead biosimilar candidates (biosimilar versions of Humira, Enbrel and Neulasta), all of which will have entered late-stage clinical development by early 2015. These products target several of the largest biologics currently on the market, with 2014 branded sales in Coherus's targeted markets expected to reach roughly \$20 billion in 2014. Coherus is currently evaluating CHS-0214, its biosimilar etanercept, in two phase III studies in rheumatoid arthritis and psoriasis, which we expect will represent the basis for approval for all approved Enbrel indications. In addition, we expect Coherus to initiate phase III studies for its other lead molecules, CHS-2140 (biosimilar adalimumab) and CHS-1701 (biosimilar peg-filgrastim) in 2015, which would position all three molecules for 2016 or 2017 launches. Assuming a modest biosimilar market share and 4-5 competitors per market, we see Coherus generating \$45million in revenue by 2020, growing to \$847million by 2025.

#### **Of these, CHS-2140 (biosimilar Humira) represents Coherus's key value driver in our view**

Humira is the largest biopharma product in the work with 2017 worldwide sales expected to reach \$16.5 billion, and Coherus's biosimilar version of the product is expected to enter phase III development in 2015. This positions Coherus to have full phase III data by 2016 and launch in 2017. The company has retained full economics to CHS-2140, and as it is one of 4-5 competitors in the space, we believe the product represents a key value driver for the Coherus story. We are forecasting a late-2017 launch of CHS-2140 in the US and a 2018 launch in the EU with 2025 sales expected to reach \$435 million.

#### **Beyond its initial three product opportunities, we see a platform at Coherus that is capable of developing further biosimilars over time**

Developing biosimilar drugs requires a specific set of capabilities, including the ability to correctly characterize the originator molecule and to analytically recreate a biosimilar molecule without infringing on the originator's patents. This requires biosimilar companies to spend significant time characterizing the in vitro and in vivo

profile of a biosimilar candidate before studying it in a phase I PK/PD study and ultimately in a non-inferiority phase III study. We see Coherus as having developed a team and platform that is capable of developing further biosimilars over time. Given this complexity, we believe Coherus could attract significant interest from major biopharma players if it were to seek a sale or partnership of its assets.

**Coherus highly experienced management team represents a clear positive for the story**

The Coherus team has significant experience in the development and commercialization of biologic medicines, including in the development of Enbrel at Immunex (which was later acquired by Amgen). Along these lines, we see the management team as particularly qualified to develop biosimilars (including anti-TNF agents). In addition, as we see biosimilars as payer-driven (at least to some extent), we believe only a modest-sized commercial organization would be required to launch each of Coherus's lead molecules if approved.

**Legal and commercial uncertainties represent key risks in the story**

As biosimilars are still very much an evolving market, particularly in the US, we see updates on the clinical, legal and commercial elements of the biosimilar market to represent catalysts for CHRS shares. We will closely watch dynamics around remaining originator patents (which could potentially delay time-to-market) and the biosimilar commercial model, which we see as primary risks in the CHRS story.

**Our DCF analysis implies a \$20/share valuation for CHRS.**

We use a risk-adjusted DCF analysis to arrive at a \$20/share valuation for CHRS, our YE'15 price target. Our analysis assumes a 2017 US entry for both CHS-1701 (Coherus's biosimilar version of Neulasta) and CHS-1420 (Coherus's biosimilar version of Humira).

## Risks to Rating and Price Target

**Uncertainty surrounding IP and patent litigation process represents key risk in the story**

Unlike with small molecule generics, the originator companies do not need to disclose patents surrounding the reference biologic until after a biosimilar manufacturer has filed its product with the FDA. Under the 351(k) pathway, the biosimilar sponsor must disclose its application to the originator, who then must respond with a list of infringed patents, starting what could be a lengthy negotiation process to determine which patents will be litigated. It remains to be seen how efficient this process will be or if the courts will enjoin Coherus from launching its products during the litigation process.

**Biosimilars might not achieve the market penetration we have forecast**

Given very little experience with biosimilars in the US and EU markets, uncertainty around commercial success represents another key risk in the story. Biosimilars represent a new paradigm in the biopharma market, and the pace of rollout and ultimate market share penetration of these products remain far from certain. We estimate that biosimilars will capture 25-35% of the etanercept and adalimumab markets and 40-55% of the pegfilgrastim market, and the rate of biosimilar uptake and ultimate biosimilar conversion could limit sales of Coherus's products.

**Coherus could face more competitors and experience more price competition than anticipated**

The rate of uptake and/or pricing could limit sales of any of Coherus's biosimilar products. There are a range of companies, including several very large biotech and pharmaceutical manufacturers, developing biosimilar products, including biosimilar versions of the same products that Coherus is targeting. We anticipate Coherus achieving competitive share in 4-5 competitor biosimilar markets at a 25-35% discount to the originator molecule, but the ultimate number of competitors and Coherus's pricing power and ability to compete against larger biopharma remain unclear.

**Coherus will need to raise additional capital or seek a partner for its products prior to commercialization**

Unlike traditional small molecule generics, biosimilars are not interchangeable and need to be marketed (requiring upfront SG&A spend). We expect CHRS to remain unprofitable for the near future and estimate that proceeds from the company's recent IPO can cover the development costs of the company's lead molecules through 2016. From there, Coherus will likely need to raise additional capital or seek a partner for its products prior to commercialization, in our view.

**Company Description**

Coherus Biosciences is a late-stage biopharmaceutical company focused on developing and commercializing biosimilars. The company has created a biosimilar platform based on advanced proprietary analytics, process science, formulation technologies, and clinical and regulatory capabilities designed to deliver high-quality biosimilars.

The company expects to have three molecules in late-stage clinical development, supporting registration filings within 2 years, including CHS-0214 (biosimilar etanercept), CHS-1420 (biosimilar adalimumab), and CHS-1701 (biosimilar pegfilgrastim). Phase III trials for CHS-0214 are already under way in rheumatoid arthritis and psoriasis.

We expect the three lead biosimilar products to be commercialized beginning in 2017. Coherus has partnered with Baxter and Daiichi Sankyo for development and commercialization of CHS-0214 outside the US and Canada. Additional undisclosed products comprise the earlier-stage product pipeline. *J.P. Morgan advised Coherus on the company's initial public offering.*

**We See an Attractive Biosimilar Market Evolving Over the Next 5-10 years**

Coherus Biosciences is a pure-play biosimilar company, with three lead molecules in late-stage clinical development. These products are biosimilar versions of Enbrel (etanercept), Humira (adalimumab) and Neulasta (pegfilgrastim), which are among the largest biologic products currently in the market, with 2014 aggregate sales expected to reach over \$20 billion in the markets that Coherus is initially targeting. Beyond these initial opportunities, we believe Coherus has developed a platform

capable of developing additional biosimilar molecules over time, and we expect the company to bring a new molecule into phase III development roughly every 2 years.

Biosimilars are an emerging and potentially substantial revenue opportunity for the industry. We expect to see a wave of biosimilars introduced to the US and European markets over the next 5-10 years, and we see Coherus as well positioned to capture share in a number of key markets.

While we anticipate much debate surrounding the evolution of the biosimilar markets over the next several years, we believe biosimilars will ultimately represent a meaningful opportunity for the following reasons:

- Biologic sales have grown rapidly over the past decade, and IMS expects biologics to account for over \$220 billion in annual sales by 2017.
- There is a wave of upcoming key patent expirations for key biologic products.
- Regulators have created a path to market for biosimilar manufacturers.
- Payers appear highly incentivized to support the uptake of biosimilars.

At the same time, we see several challenges and uncertainties that face biosimilar manufacturers:

- There is a range of patents that could delay biosimilars even after initial IP on these products has expired.
- Biosimilar development is costly, and competition among the biosimilar players could result in lower returns on these investments than anticipated.
- Market uptake for biosimilars could be very gradual in some markets, as physicians are reluctant to adopt new therapies.

### **We See a Wave of Biologic Patent Expiries Through 2020**

Following a wave of new product introductions over the past two decades, we expect to see a wave of biosimilars introduced to the US and European markets over the next 5-10 years, as a number of large biologic products go off patent. We calculate that 31 major branded biologic products with a total of ~\$100 billion of global sales have either lost patent exclusivity or will do so through 2020.

**Figure 1: We See a Significant Wave of Biologic Products That Are Losing Patent Exclusivity Through 2020**

Brand Name	Generic Name	Innovator(s)	2013 Sales
Humira	adalimumab	AbbVie	\$10.6bn
Remicade	infliximab	J&J	\$8.4bn
Enbrel	etanercept	Amgen	\$8.3bn
Lantus	insulin glargine	Sanofi	\$7.6bn
Rituxan	rituximab	Roche	\$7.5bn
Avastin	bevacizumab	Roche	\$6.8bn
Herceptin	trastuzumab	Roche	\$6.6bn
Neulasta	pegfilgrastim	Amgen	\$4.4bn
Lucentis	ranibizumab	Roche	\$4.2bn
Avonex	interferon beta-1a	Biogen Idec	\$3.0bn
Humalog	insulin lispro	Eli Lilly	\$2.6bn
Rebif	interferon beta-1a	Merck KGaA/ Pfizer	\$2.5bn
Botox	onabotulinumtoxinA	Allergan	\$2.2bn
Levemir	insulin detemir	Novo Nordisk	\$2.1bn
Advate	factor VIII	Baxter	\$2.0bn
Epogen	epoetin alfa	Amgen	\$2.0bn
Erbix	cetuximab	Bristol-Myers Squibb	\$1.9bn
NovoMix 30	insulin aspart	Novo Nordisk	\$1.7bn
Kogenate	octocog alfa	Bayer	\$1.6bn
Xolair	omalizumab	Roche	\$1.5bn
Tysabri	natalizumab	Biogen Idec	\$1.4bn
Neupogen	filgrastim	Amgen	\$1.4bn
Pegasys	peginterferon alfa2a	Roche	\$1.4bn
Procrit	epoetin alfa	J&J	\$1.4bn
Synagis	palivizumab	AstraZeneca	\$1.4bn
Pediarix	DTP, HBV, Polio Vaccine	GlaxoSmithKline	\$1.3bn
Forteo	teriparatide	Eli Lilly	\$1.2bn
Norditropin SimpleXx	somatropin recombinant	Novo Nordisk	\$1.1bn
Actemra	tocilizumab	Roche	\$1.1bn
Orencia	abatacept	Bristol-Myers Squibb	\$1.0bn

Source: Company reports and J.P. Morgan estimates.

## Legislation as Created a Biosimilar Approval Pathway in the US and Abroad

Biologics products are structurally much more complex than small molecule drugs and, as a result, are more difficult to replicate. Biosimilars of reference or novel biologics approved under the 351(a) Biologics License Application (“BLA”) process cannot be approved through the small molecule generic pathways (505(b)(1) in the United States). However, the passage of the Patient Protection and Affordable Care Act (ACA) in March 2010 enacted the Biologics Price Competition and Innovation Act (“BPCIA”), which created the 351(k) biosimilar approval pathway.

The 351(k) biosimilar pathway allows the BLA to proceed on the basis of data that previously supported approval of the originator biologic. However, unlike a small molecule generic drug that must be structurally identical to the originator compound, a biosimilar must be “highly similar” to the reference biologic without any clinically meaningful differences in terms of safety, purity and efficacy. The EMA established a similar framework for approving biosimilars in 2005, and many markets around the world have adopted similar guidelines.

Of note, because the biosimilar application can rely on information already known about the originator biologic, a biosimilar company can save significant time and resources by avoiding much of the costly testing that was required for development and approval of the originator drug. However, we are not expecting these products to be directly substitutable for originator compounds like those we see in the traditional small molecule pharmaceutical market.



### **Label extrapolation appears likely with biosimilars**

Many biologics are used in multiple indications. However, both the EMEA and FDA may approve a biosimilar in a full range of these indications based on a single Phase III study, under the rationale that the biosimilar should perform similarly in other indications. The potential for such label extrapolation may result in far less expensive development programs for companies developing biosimilars. For example, we expect that Coherus can obtain approval for all indications of Humira by demonstrating that its biosimilar version of Humira is as safe and effective as the originator biologic in just one of Humira's approved indications. We note that Celltrion/Hospira's biosimilar version of Remicade was approved in Europe in all indications based on label extrapolation.

### **Biosimilars are not expected to be interchangeable with originator products**

The FDA distinguishes between biosimilarity and interchangeability. Biosimilars that are not deemed "interchangeable" cannot be dispensed by a pharmacist in place of the originator molecule without physician approval. As a result, biosimilars that are not "interchangeable" must therefore be marketed separately to physicians.

Biosimilar candidates must meet a more stringent set of requirements to be approved as "interchangeable." Biosimilars can be considered "interchangeable" by the FDA if they are expected to generate the same clinical result as the originator biologic in any given patient and can be switched in/out at any given point during the treatment duration without any differences in terms of safety or efficacy. It remains unclear what studies the FDA would require to deem a biosimilar "interchangeable," and we do not expect any interchangeable biosimilars for the foreseeable future.

## **Patent Resolution Process and New IP Represents Key Uncertainty**

### **Purple book does not include patent information**

While the small molecule Orange Book lists the products and the patents that could potentially delay the approval of a generic drug, the Purple Book currently lists only the products and not the applicable patents. This puts biosimilar companies at a disadvantage since patent information pertaining to the originator biologic need not be disclosed until the initiation of the BPCIA's patent resolution process – which begins after the filing of the 351(k) biosimilar regulatory application

Biosimilar companies must therefore rely on their own internal legal assessments of the originator's relevant patents. Such assessments may remain largely untested until the biosimilar company files for 351(k) regulatory approval, which then triggers a stepwise patent resolution process created under the BPCIA in which the biosimilar applicant and the originator mutually disclose and discuss lists of potentially relevant patents during a process lasting approximately 8 to 9 months following the biosimilar applicant's 351(k) regulatory filing date.

### **Uncertainty remains around biosimilar patent resolution process**

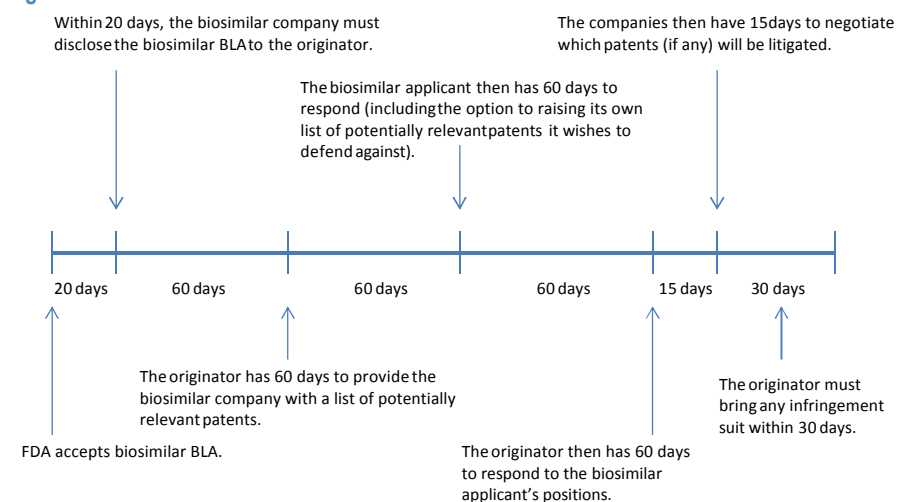
After a successful Phase III study that confirms that a biosimilar candidate shows safety and efficacy similar to that of the originator molecule, the biosimilar company can submit a 351(k) biosimilar BLA to the FDA. The biosimilar act sets forth a staged process in which the biosimilar applicant and the originator are given the opportunity to engage in a disclosure and negotiation process that focuses on



potentially relevant patents. In the first stage of this process, the biosimilar applicant must disclose the entire biosimilar application to the originator within 20 days of FDA acceptance of the filing, after which the originator has 60 days to respond with a list of potentially relevant patents. The biosimilar applicant then has 60 days to respond (including the option of raising its own list of potentially relevant patents it may wish to defend against). The originator then has 60 days to respond to the biosimilar applicant's positions.

At this point, the parties then have 15 days to reach agreement as to which patents (if any) will be immediately litigated, after which any infringement suit must be brought by the originator within 30 days. The biosimilar applicant must provide notice at least 180 days prior to launch, which could trigger a second opportunity for the originator to bring suit under one or more patents that were identified in the patent lists exchanged by the parties in the initial stage of the BPCIA patent resolution process.

**Figure 2: BPCIA Patent Resolution Process**



Source: Company reports, FDA guidelines.

While there is no automatic stay of approval as there is under the ANDA/505(b)(1) small molecule generic approval pathway, the originator company may try to obtain a preliminary injunction motion against the biosimilar applicant under one or more unexpired patents it believes may be pertinent to the biosimilar.

### **The Sandoz/Amgen experience: a loophole?**

We would note that the FDA is not explicitly required or even authorized to deny biosimilar approval based on a failure of the biosimilar company to disclose the application to the originator. In this case, the originator can sue for infringement and seek injunctive relief.

This is currently what is playing out with Sandoz and Amgen over Sandoz's biosimilar filgrastim (Neupogen). After filing the 351(k) BLA with the FDA, Sandoz did not disclose its application to Amgen. As a result, Amgen filed a complaint to the U.S. District Court alleging that Sandoz has unlawfully refused to follow the patent resolution process and seeking declaratory and injunctive relief. While it seems

unlikely that Coherus would pursue this path, in our view, we will closely watch as this process plays out.

### Intellectual property could pose ongoing challenges

In addition to the uncertainty surrounding the patent resolution process, we expect continued uncertainty regarding the extent and enforceability of intellectual property filed by originator companies. Furthermore, the originators continue to file additional patents around their molecules, and pending patents are generally not made public until 18 months after filing. Although we believe these pending patents are likely related to the formulation and manufacturing process, and Coherus is seeking to patent its own IP directed to the formulation and manufacture of certain biosimilar products in its portfolio, we will continue to watch for additional clarity on the IP front.

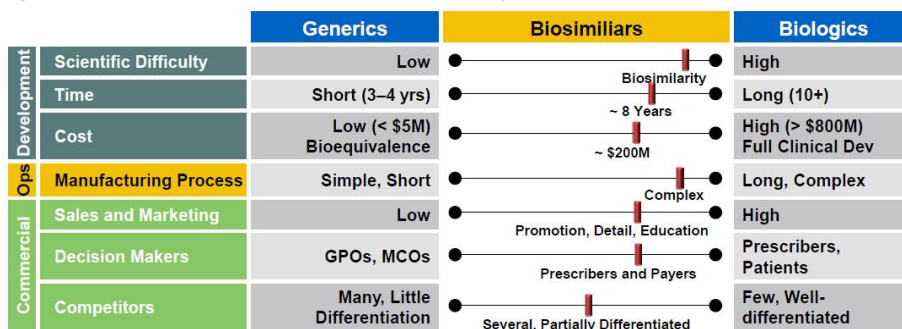
## Biosimilar Development Process Is Far More Complex than Traditional Generics

The biosimilar approval guidelines requires biosimilar companies to spend significant time characterizing the in vitro and in vivo dynamics of a biosimilar candidate before studying it in a phase I PK/PD study and ultimately in a bioequivalence phase III study.

Overall, we see biosimilar development as a good value proposition, with much of the development risk of a clinical program mitigated before costly phase III trials. We estimate that developing a molecule through the pivotal phase I PK/PD study costs \$15-20 million of the roughly \$100 million it takes to develop a biosimilar and removes an estimated 80% of the risk.

At the same time, biosimilars present a different set of challenges. Designing a biosimilar molecule requires a specific set of capabilities, including the ability to correctly characterize the originator molecule and to analytically recreate a biosimilar molecule without infringing on the originator's intellectual property.

Figure 3: Biosimilars Are More Akin to Branded Biologics than Small Molecule Generics



## Molecule Selection/Pre-Clinical Development

### Protein sequencing represents the first step in biosimilar development

A biosimilar must precisely match the amino acid sequence of an originator's molecule. Unfortunately, publicly available data around the amino acid sequence of some biologic products can be unreliable, and many originator molecules may have multiple sequences published. To match a biosimilar candidate to the originator biologic, Coherus first obtains the originator drug and fully sequences the molecule in-house to validate the amino acid sequence before designing the cDNA used to synthesize the biosimilar. Then, after developing the transformed cells, Coherus confirms the sequence of amino acids in the biosimilar against that of the originator.

### Matching the glycosylation profile is critical to achieving biosimilarity

After matching the amino acid sequence of the originator biologic, Coherus must then tune the biosimilar candidate to closely match the glycobiology of the originator molecule. Many therapeutic proteins are glycosylated (where glycans- or polysaccharides- are attached through enzymatic processes at various sites on the molecule), and unlike the amino acid sequence, which is constant, glycosylation varies and is dependent on the cell line and growth conditions. Parts of the glycosylation pattern are critical for biological function, and matching the appropriate sugars to the originator's molecule is important as the glycosylation profile affects the PK/PD profile of the molecule as well as the safety and efficacy of the drug. During this step, Coherus uses a variety of analytical methods, including in vitro pharmacology assays, to analyze the chemical, structural and functional similarity between its biosimilar candidate and the originator molecule.

### Intellectual property poses challenges

The BPCIA act in the US affords originator companies a mechanism to attempt enforcement of potentially relevant patents such as formulation and manufacturing process IP against biosimilar applicants before launch. Biosimilar companies therefore face challenges in developing biosimilar products that will not infringe such patents of the originator or other parties. Furthermore, biologic originators can be expected to file new patent applications on various aspects of biosimilars, and these filings are generally not made public until 18 months after filing.

Coherus recognizes these challenges, and has the capability to create proprietary IP such as formulation and processing technology. For example, the company has developed and filed patent applications on proprietary formulation technologies that avoid certain ingredients required in the patented originator formulations for Enbrel and Humira.

## Clinical Development

### Pivotal phase I PK/PD

Following successful pre-clinical studies in relevant animal models, selected biosimilar candidates begin pivotal phase I PK/PD trials. Regulatory agencies have established requirements for  $C_{max}$  (maximum concentration),  $AUC_{0 \rightarrow t}$  (area under the concentration curve until the last time point measured), and  $AUC_{0 \rightarrow \infty}$  (area under the concentration curve extrapolated to infinity) in order to establish bioequivalence. For each parameter, the FDA requires that the ratio of the biosimilar to the originator molecule must be between the 80% and 125% confidence interval.

### **Phase III confirmatory safety and efficacy study**

Following a successful phase I PK/PD study, a biosimilar is tested against the originator molecule in a confirmatory safety and efficacy study. Endpoints for phase III studies vary and depend on the specific therapeutic indications studied and previous clinical trials of the originator molecule compared with placebo. These studies are bioequivalent trials and depending on the size of the initial trials with the originator can be quite large. However, only a single phase III trial is required, so the overall development costs are considerably less than that of an innovative molecule.

## **Commercial Adoption**

### **We Are Forecasting Initial Uptake Could Be Gradual for Biosimilars**

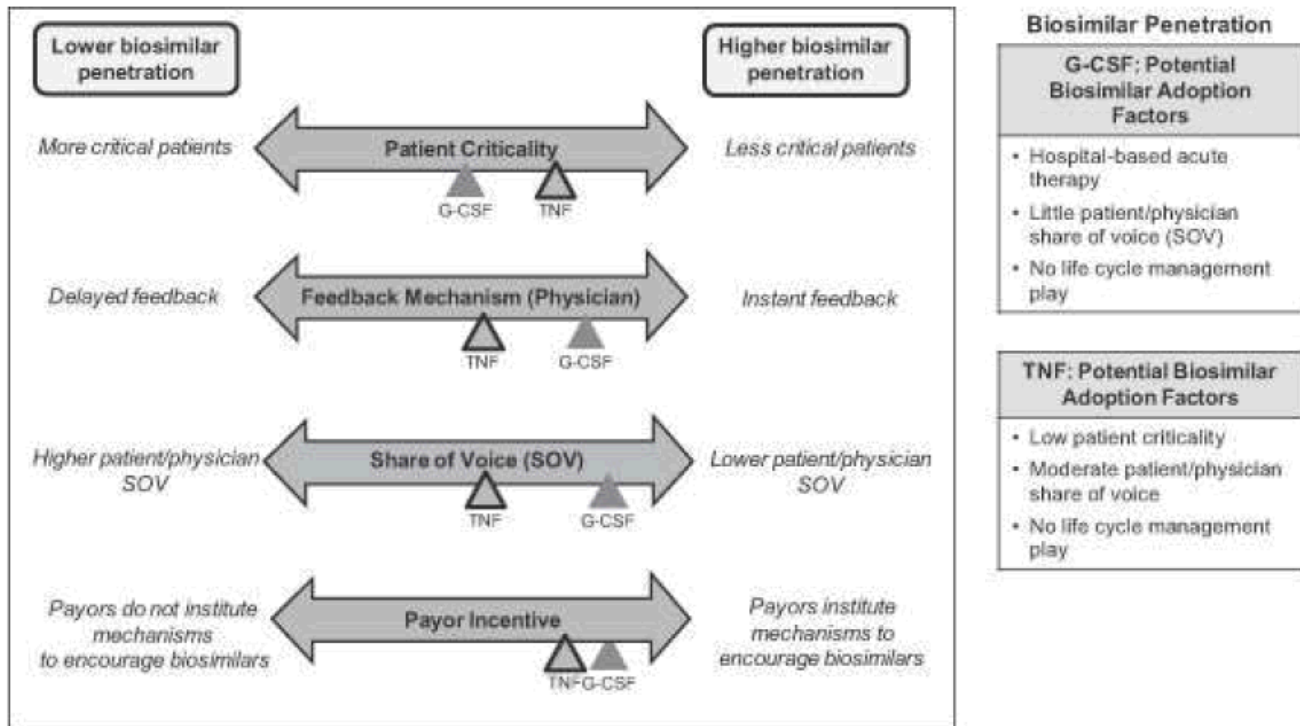
Biosimilars represent a new paradigm in the biopharma market, and the pace of rollout and ultimate market share penetration of these products remain far from certain. While we are anticipating varied uptake by market and region based on the individual characteristics of the originator product, we ultimately see the success of biosimilars as a matter of “when” not “if.” We see payers as highly incentivized to move patients to biosimilars and believe physicians are willing to start new patients on approved biosimilars.

In addition, we believe Coherus has selected markets that are particularly receptive to biosimilars based on the criticality of the patient’s condition, a rapid safety and efficacy response, the relative decision-making power of the payer/physician, and payer incentive to switch patients to biosimilars.

### **We See Four Factors Critical to Driving Biosimilar Adoption**

We see four factors as critical to driving biosimilar adoption:

Figure 4: We See a Significant Wave of Biologic Products That Are Losing Patent Exclusivity Through 2020



Source: Company reports.

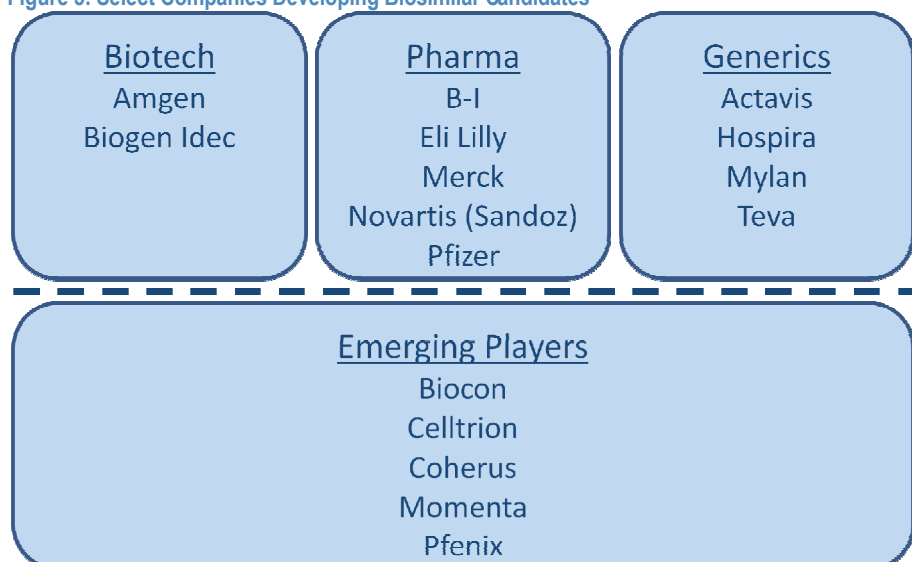
- 1.) Patient criticality: less acute conditions likely more open to biosimilar usage.** We believe that the severity of the patient's condition will affect biosimilar adoption, with doctors less likely to prescribe biosimilars to patients with critical conditions (i.e., oncology medications). Coherus is initially targeting anti-inflammatory medications, which are used chronically for debilitating but not critical diseases, and a G-CSF, which is used to stimulate the production of neutrophils to fight infection in patients undergoing chemotherapy.
- 2.) Rapidly of feedback also represents a driver of uptake.** Doctors are more likely to prescribe biosimilars if there is rapid feedback as to the safety and efficacy of the drug, in our view. With rapid patient responses, physicians are able to quickly evaluate if a product is performing as expected.
- 3.) Products with more payer influence should also see faster biosimilar uptake.** Payers have clear incentives to move patients to biosimilars given the rising cost of biologics in the market. Along these lines, products with more payer influence will likely see faster biosimilar uptake as compared with products for which the physician is given significant discretion in product selection.
- 4.) Size of end market.** Over the past few years, we have seen payers focus attention on the pricing of large, expensive therapeutic categories. At the same time, drugs in smaller categories have generally continued to take significant pricing actions. Along these lines, we see payers more focused

on promoting biosimilars in large, expensive therapeutic areas like inflammatory diseases and oncology.

## We See a Range of Companies Targeting the Biosimilar Market

We see a range of companies developing biosimilar candidates including a number of large biopharmas as well as generic pharmas and emerging players, and a number of these players have expressed enthusiasm around the emerging biosimilar market. For example, we would note that Amgen (which is a leading biologics originator and markets Neulasta worldwide and Enbrel in the US) is targeting 5 launches in 2017-19. Amgen management expects that the company's biosimilars program (which targets \$47 billion of worldwide 2013 sales) has the potential to deliver \$3 billion+ in peak annual revenue.

Figure 5: Select Companies Developing Biosimilar Candidates



Source: Company reports.

## Management Sees Relatively Low Commercialization Costs, but Coherus Is Open to Partnerships

Coherus expects that biosimilars can penetrate the etanercept, adalimumab and pegfilgrastim markets with a modest footprint and with a limited budget. Baxter and Daiichi will be commercializing etanercept, and we estimate that sales and marketing expenses for CHS-1420 would be roughly \$50 million in the US and \$25 million in EU, and expenses for CHS-1701 would be roughly \$20 million in the US and \$15 million in EU.

Over the next 9-12 months, management will be making a decision whether to prepare to commercialize the products alone or to partner CHS-1420 and/or CHS-1701 with marketing deals or through larger strategic deals.

## Coherus's Product Portfolio

### CHS-0214 (etanercept, Biosimilar Enbrel) Represents the Company's Lead Compound

Coherus's lead molecule, CHS-0214, is a biosimilar etanercept (Enbrel) candidate. Enbrel is a TNF-inhibitor approved for use in treating rheumatoid arthritis, psoriasis, psoriatic arthritis, juvenile idiopathic arthritis and ankylosing spondylitis. In 2013, Enbrel generated ex-US sales of \$3.8 billion.

The company is studying CHS-0214 in two phase III trials, in rheumatoid arthritis and psoriasis, which we believe could represent the basis for regulatory approval in all approved Enbrel indications. We expect these studies to reach their primary endpoints in mid- to late 2015, setting up an early-2016 filing and potential early-2017 launch in Europe. We would note that Amgen has patent protection for US Enbrel through the late 2020s, and we do not model any revenues from CHS-0214 in the US.

#### CHS-0214 is primarily an ex-US opportunity at this point and is partnered with Baxter and Daiichi

Coherus has partnered Enbrel with Baxter in territories that include the EU, Brazil, Canada and China, and with Daiichi Sankyo in Japan. As a result, Baxter and Daiichi Sankyo will book ex-US revenues on CHS-0214 and will pay a tiered low-double-digit royalty to Coherus.

Figure 6: CHS-0214 Profile

<b>Innovator ex-US Revenues:</b>	\$3.8bn in 2013
<b>Innovator patent expiration:</b>	8/15 in Europe 2028-2029 in US
<b>Current progress:</b>	Ph. III in RA (started 6/14) Ph. III in Psoriasis (started 7/14)
<b>Estimated Filing:</b>	2016 in Europe
<b>Estimated Launch:</b>	2017 in Europe
<b>Competitors:</b>	Sandoz (Ph. III in RA completes in 4/15) Samsung Bioepis (Ph. III in RA primary completion 6/14) Oncobiologics (Ph. I completes by 4Q/14) Protalix (Pre-clinical) Momenta (Pre-clinical)

Source: Company reports and J.P. Morgan estimates.

Figure 7: CHS-0214 Timeline

Event	Timing
Additional Phase I PK for Europe	2H/14
Phase III RA Trial	Ongoing
Phase III Psoriasis Trial	Ongoing
Europe Filing	2016
Regulatory Decision	2017

Source: Company reports and J.P. Morgan estimates.



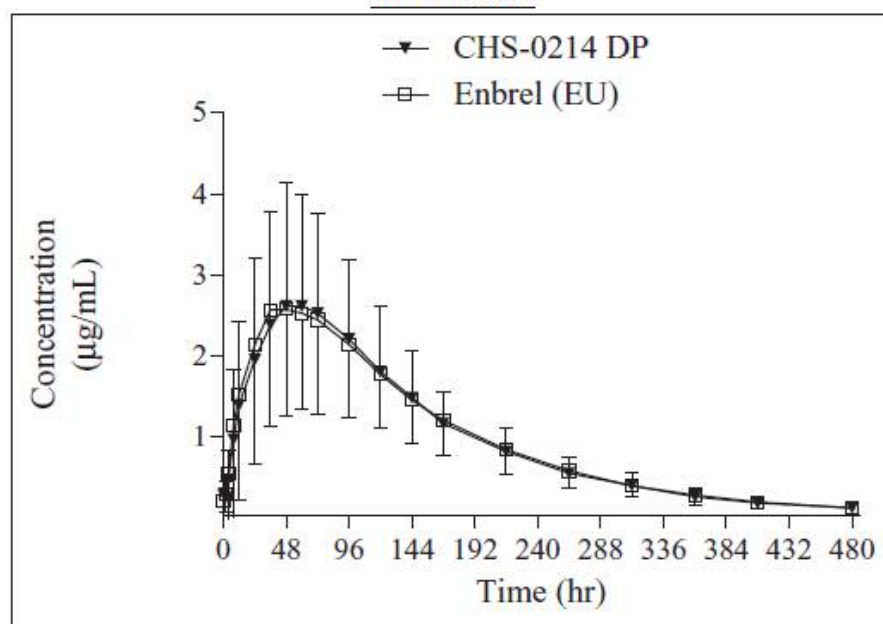
### Successful phase I data showed 98% correlation with Enbrel

In October 2013, Coherus announced that its single-dose, crossover phase I PK study for CHS-0214 demonstrated a 98% correlation with Enbrel on clinical PK similarity. The company also collected safety data, which showed that CHS-0214 was well tolerated and adverse events in the CHS-0214 arm were similar to those seen in the Enbrel arm of the study.

Coherus has since moved manufacturing of CHS-0214 from the US to the EU, and as a result is conducting an additional PK trial comparing CHS-0214 with a lot of Enbrel that was manufactured in Europe.

Figure 8: CHS-0214 Phase I PK/PD Data Demonstrated 98% Correlation

### Mean Serum Concentration Over Time for CHS-0214 and Enbrel



Source: Company reports.

### Ongoing phase IIIs in RA and Psoriasis will provide basis for filing

Coherus is currently conducting two phase III studies of CHS-0214, one in patients with rheumatoid arthritis and one in patients with plaque psoriasis.

The company's phase III study in rheumatoid arthritis studies CHS-0214 in 486 patients who have failed DMARD (disease-modifying antirheumatic drug) therapy. The trial studies CHS-0214 50mg with methotrexate vs. Enbrel 50mg with methotrexate administered weekly over 24 weeks. As in the pivotal trial of Enbrel in rheumatoid arthritis, the trial seeks to show a similar ACR 20 score (20% improvement American College of Rheumatology score) after 24 weeks. After 24 weeks of treatment, all patients will continue on CHS-0214 for 6 months, which will give doctors some insight as to how Enbrel patients would perform after switching to CHS-0214. We expect this trial will reach its primary endpoint in September 2015.

Coherus is also studying CHS-0214 in a phase III trial in psoriasis. This trial compares CHS-0214 50mg with Enbrel 50mg twice weekly for 12 weeks in 424 patients with chronic plaque psoriasis. The study seeks to show that treatment with CHS-0214 generates a similar PASI-75 (% of patients achieving 75% improvement in Psoriasis Area and Severity Index) at 12 weeks as treatment with Enbrel does. Following 12 weeks of treatment, patients continue in their same treatment arms, switching to once-weekly dosing for an additional 40 weeks. We expect this trial will reach its primary endpoint in March 2015.

### We expect steady uptake for CHS-0214 beginning in 2017

We anticipate a potential early-2017 launch in Europe for CHS-0214 following an early-2016 filing. From our conversations with physicians, we expect initial biosimilar volume to come mostly from new patient starts on etanercept and forecast that very few patients who are stable on Enbrel will initially switch to a biosimilar. As a result, we are forecasting a more gradual ramp of biosimilar penetration of the etanercept market with 15% of patients on biosimilars in 2018 and 35% of patients on biosimilars by 2022.

We estimate that there will be two other biosimilar participants when Coherus launches the product, and we forecast CHS-0214 will eventually capture roughly 25% of the biosimilar market at a roughly 30% discount to Enbrel. Applying a low-double-digit royalty rate, we calculate that Coherus will see peak royalties of roughly \$30 million from ex-US sales of CHS-0214.

Figure 9: CHS-0214 Royalties Could Reach \$30mm

\$ in thousands

thousands USD Fiscal year ends December 31	FY 2016E	FY 2017E	FY 2018E	FY 2019E	FY 2020E	FY 2021E	FY2022E	FY 2023E	FY 2024E	FY 2025E
<b>Biosimilar Penetration</b>										
Ex-US Patient Population	311,417	311,417	311,417	311,417	311,417	311,417	311,417	311,417	311,417	311,417
growth	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Biosimilar Penetration	2.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	35.0%	35.0%	35.0%
<b>Patients on biosimilar etanercept</b>	<b>6,228</b>	<b>31,142</b>	<b>46,713</b>	<b>62,283</b>	<b>77,854</b>	<b>93,425</b>	<b>108,996</b>	<b>108,996</b>	<b>108,996</b>	<b>108,996</b>
<b>Biosimilar Market Share</b>										
Coherus CHS-0214	0.0%	5.0%	15.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
<b>Coherus CHS-0214 Revenue</b>										
CHS-0214 Patients	-	1,557	7,007	15,571	19,464	23,356	27,249	27,249	27,249	27,249
Initial discount to innovator		20%	25%	30%	30%					
Pricing		10.6	10.1	9.6	9.8	9.5	9.3	9.0	8.7	8.5
growth			-4%	-5%	2%	-3%	-3%	-3%	-3%	-3%
<b>CHS-0214 Revenue</b>		<b>16,504</b>	<b>71,018</b>	<b>150,242</b>	<b>191,559</b>	<b>222,975</b>	<b>252,333</b>	<b>244,763</b>	<b>237,420</b>	<b>230,298</b>
% Royalty to Coherus		12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
<b>Coherus CHS-0214 Royalty Revenue</b>		<b>1,980</b>	<b>8,522</b>	<b>18,029</b>	<b>22,987</b>	<b>26,757</b>	<b>30,280</b>	<b>29,372</b>	<b>28,490</b>	<b>27,636</b>
growth			330%	112%	27%	16%	13%	-3%	-3%	-3%

Source: Company reports and J.P. Morgan estimates.

### We do not see recent manufacturing issues as an ongoing problem

On October 29, 2014, as part of a routine visual inspection, Coherus discovered small dark particles in four syringes of CHS-0214 from production lot 5. Aside from a temporary delay in the ongoing clinical trials, we do not see this manufacturing issue as an ongoing problem and do not expect any effects on the clinical trial results. The debris was not a result of any instability in the pharmaceutical and was likely from a new pump in the process equipment used in the filling of lot 5 syringes. Coherus has visually inspected the remainder of lot 5 as well as all of lot 6 and has not discovered any debris in approximately 8,000 syringes that were inspected. There were no adverse effects reported with the use of product from lot 5.

As a result of a temporary delay in the enrollment and dosing of the clinical trials, the studies have been delayed by approximately 2 months. We do not expect any effects on the clinical trial results.

## CHS-1420 (adalimumab, Biosimilar Humira) Represents Coherus's Key Value Driver

Coherus plans to move CHS-1420, its biosimilar adalimumab (Humira) candidate, into phase III development in 2015. Humira is a TNF-inhibitor approved for the treatment of rheumatoid arthritis, psoriasis, psoriatic arthritis, juvenile idiopathic arthritis, ankylosing spondylitis, Crohn's disease, ulcerative colitis, and Behcet's disease, amongst other indications. In 2013, Humira generated sales of \$5.2 billion in the US and sales of \$5.4 billion ex-US, and the product continues to generate mid-teens sales growth. Humira loses patent protection in the US in December 2016 and in Europe in April 2018. We expect the Humira market to grow significantly over the next several years, driven by volume growth from increased penetration and new indications, as well as significant price increases. As a result, we forecast AbbVie Humira sales of \$16.8 billion in 2018.

Coherus plans to initiate a phase III trial of CHS-1420 in the first half of 2015, which we believe could represent the basis for regulatory approval in all approved Humira indications. We expect this trial to represent the basis for an FDA filing in 2016, supporting a potential 2017 US launch of CHS-1420, and an EMA filing in 2017, supporting a potential 2018 EU launch.

Figure 10: CHS-1420 Profile

<b>Innovator US Revenues:</b>	\$5.2bn in 2013
<b>Innovator ex-US Revenues:</b>	\$5.4bn in 2013
<b>Innovator patent expiration:</b>	2016 in US 2018 in Europe
<b>Current progress:</b>	Ph. I PK/PD Completed Ph. III start planned for 1H/15
<b>Estimated Filing:</b>	2016 in US 2017 in Europe
<b>Estimated Launch:</b>	2017 in US 2018 in Europe
<b>Competitors:</b>	Actavis/Amgen (Ph. III in RA started 9/13, Ph. III in plaque psoriasis started 3/14) Sandoz (Ph. III in psoriasis started 12/13) BI (Ph. III in RA started 5/14) Samsung Bioepis (Ph. III in RA primary completion 5/15) Pfizer (Ph. I as of 2/14) Momenta (Pre-clinical, Ph. I to start late '14)

Source: Company reports and J.P. Morgan estimates.

Figure 11: CHS-1420 Timeline

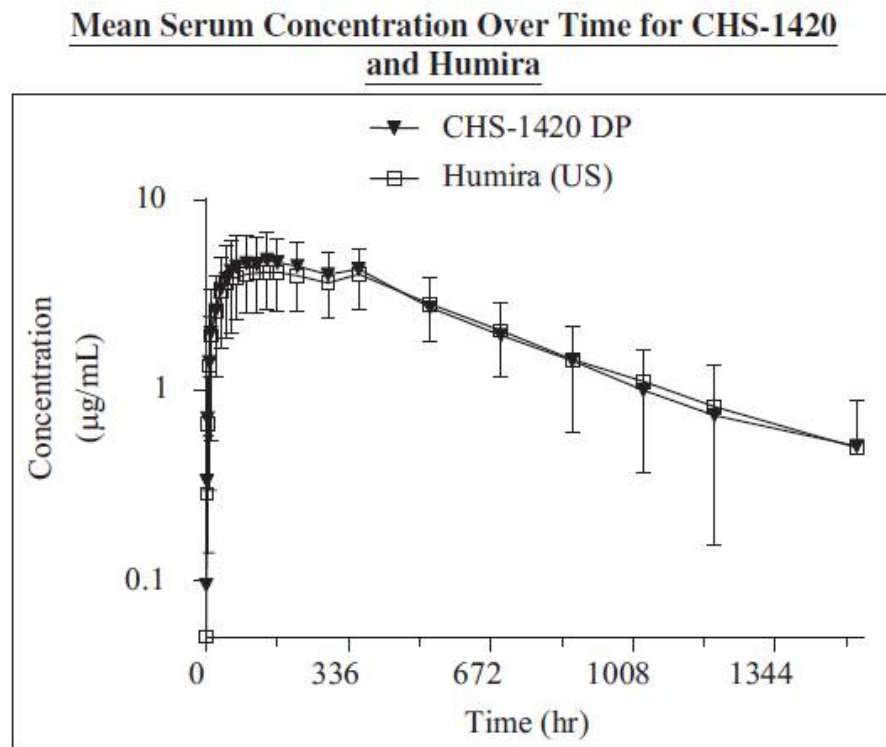
Event	Timing
Phase III Start	1H/15
US Filing	2016
Europe Filing	2017
US Regulatory Decision	2017
Europe Regulatory Decision	2018

Source: Company reports and J.P. Morgan estimates.

### Phase I trial met all PK similarity endpoints

In August 2014, Coherus announced that its single-dose phase I PK study for CHS-1420 met all PK similarity endpoints when compared with Humira and demonstrated bioequivalence between the two molecules. Coherus also collected safety data that showed that both CHS-1420 and Humira were well tolerated.

Figure 12: CHS-1420 Phase I PK/PD Data Demonstrated Bioequivalence to Humira



Source: Company reports.

### Expected commercial uptake

We anticipate a 2016 filing and potential 2017 launch of CHS-1420 in the US and a 2017 filing and potential 2018 launch of the product in Europe. As with biosimilar etanercept, we expect initial biosimilar adalimumab volume to come mostly from new patient starts on adalimumab rather than from patients switching from Humira therapy. As a result, we are forecasting a gradual ramp of biosimilar penetration of the adalimumab market with biosimilars accounting for 15% of US adalimumab volume in 2020 and ultimately growing to 25% of the US market, and accounting for 12% of ex-US adalimumab volume in 2020 and ultimately growing to 35% of the ex-US market. We note that we do not model any potential cannibalization of patients that would have been prescribed Enbrel, and any such penetration would represent upside to our model.

We estimate that there will be 4 players at US market formation and 5 players at EU market formation, and we estimate that CHS-1420 will capture 15% of both markets at a roughly 35% discount to Humira, implying peak sales of roughly \$230 million in the US and \$235 million ex-US.

Figure 13: CHS-1420 Sales Could Reach \$435mm

\$ in thousands

thousands USD Fiscal year ends December 31	FY 2016E	FY 2017E	FY 2018E	FY 2019E	FY 2020E	FY 2021E	FY2022E	FY 2023E	FY 2024E	FY 2025E
<b>US Biosimilar Penetration</b>										
US Patient Population	246,108	251,030	256,051	261,172	266,395	271,723	277,157	282,700	288,354	294,122
growth	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Biosimilar Penetration	0.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	25.0%	25.0%	25.0%
Patients on biosimilar adalimumab	-	5,021	12,803	26,117	39,959	54,345	69,289	70,675	72,089	73,530
<b>US Biosimilar Market Share</b>										
Coherus CHS-1420	0.0%	5.0%	12.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
<b>Coherus CHS-1420 US Revenue</b>										
CHS-1420 Patients	-	251	1,536	3,918	5,994	8,152	10,393	10,601	10,813	11,030
Initial discount to innovator	-	25%	30%	35%	35%	-	-	-	-	-
Pricing	-	25.0	24.5	23.9	24.4	23.2	22.0	20.9	19.9	18.9
growth	-	-2%	-2%	-2%	2%	-5%	-5%	-5%	-5%	-5%
Coherus CHS-1420 US Revenue	-	6,285	37,696	93,722	146,263	188,972	228,892	221,796	214,921	208,258
growth	-	-	500%	149%	56%	29%	21%	-3%	-3%	-3%
<b>ex-US Biosimilar Penetration</b>										
ex-US Patient Population	485,240	485,240	485,240	485,240	485,240	485,240	485,240	485,240	485,240	485,240
growth	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Biosimilar Penetration	0.0%	0.0%	2.0%	5.0%	12.0%	18.0%	22.0%	25.0%	32.0%	35.0%
Patients on biosimilar adalimumab	-	-	9,705	24,262	58,229	87,343	106,753	121,310	155,277	169,834
<b>ex-US Biosimilar Market Share</b>										
Coherus CHS-1420	0.0%	0.0%	5.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
<b>Coherus CHS-1420 ex-US Revenue</b>										
CHS-1420 Patients	-	-	485	3,639	8,734	13,101	16,013	18,196	23,292	25,475
Initial discount to innovator	-	28%	30%	35%	35%	-	-	-	-	-
Pricing	-	11.1	11.3	11.0	11.5	10.9	10.4	9.9	9.4	8.9
growth	-	-	1%	-2%	5%	-5%	-5%	-5%	-5%	-5%
Coherus CHS-1420 ex-US Revenue	-	-	5,462	39,943	100,656	143,434	166,543	179,791	218,626	227,166
growth	-	-	-	631%	152%	43%	16%	8%	22%	4%
<b>Total CHS-1420 Revenue</b>		6,285	43,158	133,665	246,919	332,406	395,435	401,587	433,546	435,424

Source: Company reports and J.P. Morgan estimates.

## CHS-1701 (pegfilgrastim, Biosimilar Neulasta) Also Represents an Attractive Opportunity for Coherus

CHS-1701 is Coherus's biosimilar pegfilgrastim (Neulasta) candidate. Neulasta is a long-acting G-CSF (granulocyte colony-stimulating factor) used to prevent chemotherapy-induced febrile neutropenia in cancer patients. The G-CSF stimulates the bone marrow to produce granulocytes and stem cells that increase the level of neutrophils. In 2013, Neulasta generated sales of \$3.5 billion in the US and sales of \$900 million ex-US. Neulasta loses patent protection in the US in October 2015 and in Europe in February 2018.

Coherus conducted a phase I PK crossover study comparing a single 6mg dose of CHS-1701 with Neulasta. While this study did not meet its bioequivalence endpoints under the 351(k), the FDA has indicated that Coherus can initiate a phase III study of CHS-1701 under the 351(a) novel biologic pathway.

However, Coherus has informed the FDA that the company plans to continue to develop CHS-1701 under the 351(k) biosimilar pathway, which would allow Coherus to potentially file the product in 4Q 2015 or 1Q 2016 in the US and potentially launch CHS-1701 in late 2016 or early 2017.

Figure 14: CHS-1701 Profile

<b>Innovator US Revenues:</b>	\$3.5bn in 2013
<b>Innovator ex-US Revenues:</b>	\$900mm in 2013
<b>Innovator patent expiration:</b>	10/15 in US 2/18 in Europe
<b>Current progress:</b>	Ph. I PK/PD Completed Transitioning to 351(k) pathway BLA-enabling trial start planned for 1H/15
<b>Estimated Filing:</b>	Late 2015/Early 2016 in US Early 2017 in Europe
<b>Estimated Launch:</b>	Late 2016/Early 2017 in US Early 2018 in Europe
<b>Competitors:</b>	Sandoz (Ph. IIIs completed in 4/14) Teva (Lonquez - lipegfilgrastim - approved in EU) Apotex Hospira Biocon/Mylan

Source: Company reports and J.P. Morgan estimates.

Figure 15: CHS-1701 Timeline

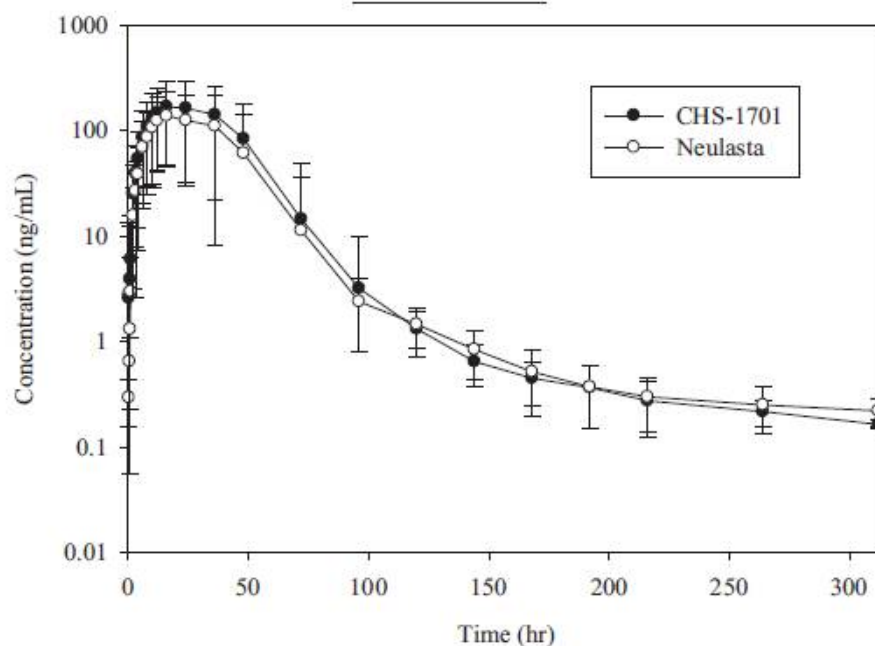
Event	Timing
FDA Response to 351(k) pathway	Nov 2014
BLA-Enabling Trial Start	1H/15
US Filing	Late 2015/Early 2016
US Regulatory Decision	Late 2016/Early 2017
Europe Filing	Early 2017
Europe Regulator Decision	Early 2018

Source: Company reports and J.P. Morgan estimates.

### Serum concentration of CHS-1701 was high in first phase I PK/PD trial

Figure 16: CHS-1701 Phase I PK/PD Curve Overlaps with Neulasta, but Concentration Was High

#### Mean Serum Concentration Over Time of CHS-1701 and Neulasta



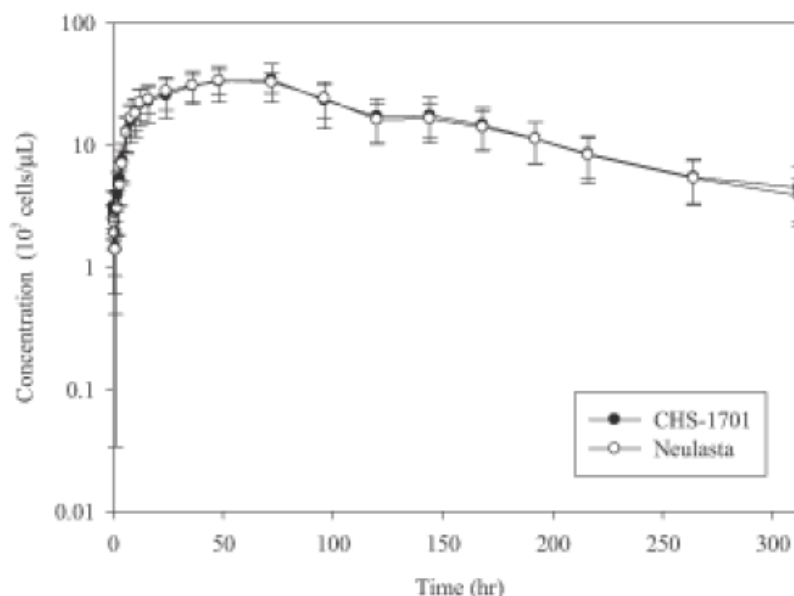
Source: Company reports.

Coherus has conducted a phase I PK/PD crossover trial comparing a single 6mg dose of CHS-1701 with Neulasta. Although the study would have supported a phase III under the 351(a) pathway, the study did not meet the bioequivalence requirements under the 351(k) pathway in that the study's geometric mean values for serum CHS-1701 concentration were slightly above the 125% upper limit on all three variables:  $C_{max}$ ,  $AUC_{0 \rightarrow t}$ , and  $AUC_{0 \rightarrow \infty}$ .



Figure 17: CHS-1701 Demonstrated Mean ANC Comparable with That of Neulasta

**Mean Absolute Neutrophil Count (ANC) Over Time after single dose of CHS-1701 or Neulasta**



Source: Company reports. However, the study did demonstrate that the absolute neutrophil count (ANC) was comparable with that observed in Neulasta. A post-hoc analysis showed that ANC would have met the bioequivalence criteria. Safety was similar between CHS-1701 and Neulasta.

**Coherus plans to file CHS-1701 through 351(k), will initiate second PK/PD trial**

Coherus has announced that it is now seeking to file CHS-1701 through the 351(k) biosimilar pathway instead of through the 351(a) pathway as originally planned. The company met with the FDA in October, and expects to finalize a clinical plan by the end of 2014. While it remains unclear whether filing CHS-1701 through the 351(k) will require a second PK/PD trial to definitely show bioequivalence, Coherus remains committed to initiating a BLA-enabling study in 2015. We expect Coherus to file CHS-1701 through the 351(k) pathway in 4Q 2015 or early 2016, setting up a potential late-2016 or early-2017 US launch of the product.

**Expected commercial uptake**

We anticipate a potential late-2016 or early-2017 launch of CHS-017 in the US, and an early-2017 filing and potential early-2018 launch of the product in the EU. Given the hospital setting of the drug and the quick response nature of the treatment, we expect biosimilars to capture significant share. In the US, we forecast that biosimilars will capture 40% of the US pegfilgrastim market. We expect 5 players at market formation and expect Coherus to capture a roughly 12% share with a roughly 25% discount to Neulasta, implying peak sales of roughly \$200 million.

Outside of the US, we see biosimilars capturing 55% of the pegfilgrastim market. We would note that biosimilars of filgrastim (Neupogen, a short-acting G-CSF) have captured a roughly 52% share of the short-acting G-CSF market and 77% share of the filgrastim market within 5 years of launch. We expect 5 players at market

formation and expect Coherus to capture a roughly 15% share at a roughly 35% discount to Neulasta, implying peak sales of roughly \$50 million. Assuming that Coherus partners this product ex-US, we assume Coherus receives peak royalties of roughly \$25 million.

Figure 18: CHS-1701 Revenues Could Reach \$228mm

\$ in thousands

thousands USD Fiscal year ends December 31	FY 2016E	FY 2017E	FY 2018E	FY 2019E	FY 2020E	FY 2021E	FY 2022E	FY 2023E	FY 2024E	FY 2025E
<b>US Biosimilar Penetration</b>										
US Patient Population	498,709	503,697	508,734	513,821	518,959	524,149	529,390	534,684	540,031	545,431
Biosimilar Penetration	5.0%	15.0%	20.0%	30.0%	35.0%	40.0%	40.0%	40.0%	40.0%	40.0%
<b>US Patients on biosimilar pegfilgrastim</b>	<b>24,935</b>	<b>75,554</b>	<b>101,747</b>	<b>154,146</b>	<b>181,636</b>	<b>209,659</b>	<b>211,756</b>	<b>213,874</b>	<b>216,012</b>	<b>218,172</b>
<b>US Biosimilar Market Share</b>										
Coherus CHS-1701	0.0%	5.0%	10.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
<b>Coherus Revenue</b>										
US CHS-1701 Patients	-	3,778	10,175	18,498	21,796	25,159	25,411	25,665	25,921	26,181
Initial discount to innovator		15%	20%	25%	25%	25%	25%	25%	25%	25%
US Pricing		6.9	6.7	6.5	6.7	6.9	7.1	7.3	7.5	7.7
growth			-3%	-3%	3%	3%	3%	3%	3%	3%
<b>US CHS-1701 Revenue</b>	<b>26,058</b>	<b>68,035</b>	<b>119,436</b>	<b>144,957</b>	<b>172,342</b>	<b>179,287</b>	<b>186,512</b>	<b>186,512</b>	<b>194,029</b>	<b>201,848</b>
% Royalty to Coherus		100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Coherus US CHS-1701 Royalty Revenue</b>	<b>26,058</b>	<b>68,035</b>	<b>119,436</b>	<b>144,957</b>	<b>172,342</b>	<b>179,287</b>	<b>186,512</b>	<b>186,512</b>	<b>194,029</b>	<b>201,848</b>
growth				76%	21%	19%	4%	4%	4%	4%
<b>ex-US Biosimilar Penetration</b>										
ex-US Patient Population	191,504	193,419	195,354	197,307	199,280	201,273	203,286	205,319	207,372	209,446
Biosimilar Penetration	5.0%	10.0%	20.0%	30.0%	35.0%	40.0%	45.0%	50.0%	55.0%	55.0%
<b>ex-US Patients on biosimilar pegfilgrastim</b>	<b>9,575</b>	<b>19,342</b>	<b>39,071</b>	<b>59,192</b>	<b>69,748</b>	<b>80,509</b>	<b>91,479</b>	<b>102,659</b>	<b>114,055</b>	<b>115,195</b>
<b>ex-US Biosimilar Market Share</b>										
Coherus CHS-1701	0.0%	0.0%	5.0%	12.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
<b>Coherus Revenue</b>										
ex-US CHS-1701 Patients	-	-	1,954	7,103	10,462	12,076	13,722	15,399	17,108	17,279
Initial discount to innovator			20%	25%	30%	35%	35%	35%	35%	35%
ex-US Pricing			3.9	3.7	3.4	3.2	3.2	3.2	3.2	3.2
growth			-6%	-7%	-7%	0%	0%	0%	0%	0%
<b>ex-US CHS-1701 Revenue</b>	<b>-</b>	<b>7,150</b>	<b>24,264</b>	<b>33,186</b>	<b>38,306</b>	<b>43,526</b>	<b>48,845</b>	<b>54,267</b>	<b>54,810</b>	<b>54,810</b>
% Royalty to Coherus		50%	50%	50%	50%	50%	50%	50%	50%	50%
<b>Coherus ex-US CHS-1701 Royalty Revenue</b>	<b>-</b>	<b>3,575</b>	<b>12,132</b>	<b>16,593</b>	<b>19,153</b>	<b>21,763</b>	<b>24,423</b>	<b>27,134</b>	<b>27,405</b>	<b>27,405</b>
growth				239%	37%	15%	14%	12%	11%	1%
<b>Coherus Total CHS-1701 Revenue</b>	<b>26,058</b>	<b>71,610</b>	<b>131,568</b>	<b>161,550</b>	<b>191,495</b>	<b>201,050</b>	<b>210,935</b>	<b>210,935</b>	<b>221,162</b>	<b>229,253</b>

Source: Company reports and J.P. Morgan estimates.

## Highly Experienced Management Team

Coherus's management team, led by CEO Dennis Lanfear, brings considerable experience in biologics development and manufacturing, which we believe significantly enhances the potential for successful biosimilar approval and commercialization.

### Dennis M. Lanfear, President and CEO

Dennis Lanfear co-founded Coherus in 2010, and serves as the company's President and CEO as well as a member of the board. Previously, Lanfear was the President of InteKrin, a clinical-stage biopharma, and has held key leadership positions in process development and product development (from pre-clinical through phase III) at Amgen.

### Jean-Frédéric Viret, Ph.D., CFO

Jean-Frédéric Viret joined Coherus as the CFO in September 2014. Previously, he served as CFO at diaDexus and XDx, Inc. (now CareDx, Inc.), as well as Anesiva (previously Corgentech), a public biopharma.

**Barbara K. Finck, M.D., Chief Medical Officer**

Barbara Finck has served as Coherus's CMO since July 2013 and previously served as a Senior Vice President at the company from July 2012 to July 2013. Before joining Coherus, she served as the SVP and Chief Medical Officer of NKT Therapeutics from June 2007 to June 2010, and as SVP of Research and Development and Chief Medical Officer of Osprey Pharmaceuticals.

We would note that Dr. Finck was closely involved in developing etanercept (Enbrel) at Immunex (which was later acquired by Amgen). As a named inventor on several U.S. patents related to the molecule, she is particularly qualified in developing biosimilar anti-TNF agents, in our view.

**Alan C. Herman, Ph.D., Chief Scientific Officer**

Alan Herman joined Coherus as the company's Chief Scientific Officer in April 2011. Previously, he founded and served as CEO of WindRose Analytica, Inc., a contract analytical laboratory, which was acquired by Althea Technologies, at which he served as Chief Scientific Officer and VP of Product Development. Before WindRose, Dr. Herman started Amgen's analytical research and development department, where he worked from 1989 to 2009. He also has experience at Genentech and Merck, at which he worked on the development of a range of biopharmaceutical products including human growth hormone, tissue plasminogen activator, interferon, and a recombinant hepatitis B vaccine.

**Peter K. Watler, Ph.D., Chief Technical Officer**

Peter Watler has served as Coherus's Chief Technical Officer since June 2014, and was previously the company's SVP of process sciences since March 2012. He joined Coherus from Hyde Engineering Consulting, a global process system design organization. Dr. Watler has previous process engineering experience at VaxGen, at which he served as the VP of Manufacturing Operations, and at Amgen, where he served as the Associate Director of Pilot Plant Engineering.

## Valuation

Using a risk-adjusted DCF analysis, we arrive at a December 2015 price target of \$20. We assume that Baxter launches CHS-0214 in Europe in 2017 and that Coherus launches CHS-1420 in the US in 2017 and in Europe in 2018 and CHS-1701 in the US in 2017 and in Europe in 2018. We see potential upside from our current valuation should biosimilar penetration exceed our expectations and/or if Coherus is able to capture more market share than expected.

### DCF Analysis Supports a Risk-Adjusted \$20/Share Valuation

Our discounted cash flow (DCF) analysis leads us to a valuation of \$20/share for Coherus by the end of 2015 assuming continued progress towards regulatory filings in the US and EU. We assume that Baxter launches CHS-0214 in Europe in 2017 and that Coherus launches CHS-1420 in the US in 2017 and in Europe in 2018 and CHS-1701 in the US in 2017 and in Europe in 2018.

We estimate a weighted average cost of capital (WACC) of 11%, which is consistent with WACC estimates for companies of Coherus's size and development stage due to the risk of the company's business model relative to more established branded pharma companies with commercialized products. We use a terminal decline of 1% past 2030. We also risk adjust our enterprise value with an 80% probability of success.

## Catalysts

Figure 19: Upcoming CHRS Catalysts

Timing	Product	Event
Ongoing	CHS-0214	Phase III in RA
Ongoing	CHS-0214	Phase III in Psoriasis
Ongoing		Ongoing Amgen/Sandoz Litigation
Ongoing		Other EU biosimilar launches
Late 2014	CHS-1701	FDA Response to 351(k) pathway, finalize development plans
Early 2015	CHS-1420	Disclosure of filing strategy
1H15	CHS-1420	Phase III Start
2015	CHS-1701	BLA-enabling Trial Start
2015		Exploring commercialization strategy/potential partnerships
4Q15/1Q16	CHS-1701	US Filing
1H16	CHS-0214	EU Filing
2016	CHS-1420	US Filing
4Q16/1Q17	CHS-1701	Potential US Launch
Early 2017	CHS-1701	Potential EU Launch
1H17	CHS-0214	EU Filing
2017	CHS-1420	Potential US Launch
2017	CHS-1420	EU Filing
Early 2018	CHS-1701	Potential EU Launch
2018	CHS-1420	Potential EU Launch

Source: Company reports.

Figure 20: Coherus DCF Valuation

\$ in thousands

thousands USD	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	Terminal
<b>Pipeline products</b>																	
Ex-US etanercept	-	-	1,557	7,007	15,571	19,464	23,356	27,249	27,249	27,249	27,249	27,249	27,249	26,704	26,170	25,647	
growth				350%	122%	25%	20%	17%	0%	0%	0%	0%	0%	-2%	-2%	-2%	
US pegfilgrastim	-	-	26,058	68,035	119,436	144,957	172,342	179,287	186,512	194,029	201,848	197,811	193,855	189,978	186,178	182,455	
growth				161%	76%	21%	19%	4%	4%	4%	4%	-2%	-2%	-2%	-2%	-2%	
Ex-US pegfilgrastim	-	-	-	3,575	12,132	16,593	19,153	21,763	24,423	27,134	27,405	27,405	27,405	26,857	26,320	25,793	
growth				#DIV/0!	239%	37%	15%	14%	12%	11%	1%	0%	0%	-2%	-2%	-2%	
US adalimumab	-	-	6,285	37,696	93,722	146,263	188,972	228,892	221,796	214,921	208,258	202,010	195,950	190,072	184,370	178,838	
growth				500%	149%	56%	29%	21%	-3%	-3%	-3%	-3%	-3%	-3%	-3%	-3%	
Ex-US adalimumab	-	-	-	5,462	39,943	100,656	143,434	166,543	179,791	218,626	227,166	231,709	236,343	236,343	236,343	236,343	
growth					631%	152%	43%	16%	8%	22%	4%	2%	2%	0%	0%	0%	
Unnamed Asset 1 (probability adjusted)	-	-	-	-	5,000	25,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	
growth						400%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Unnamed Asset 2 (probability adjusted)	-	-	-	-	-	-	5,000	25,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	
growth								400%	100%	0%	0%	0%	0%	0%	0%	0%	
Unnamed Asset 3 (probability adjusted)	-	-	-	-	-	-	-	-	5,000	25,000	50,000	50,000	50,000	50,000	50,000	50,000	
growth										400%	100%	0%	0%	0%	0%	0%	
Unnamed Asset 4 (probability adjusted)	-	-	-	-	-	-	-	-	-	-	5,000	25,000	50,000	50,000	50,000	50,000	
growth												400%	100%	0%	0%	0%	
<b>Total Pipeline Revenue</b>	-	-	33,900	121,775	285,804	452,932	602,257	698,734	744,771	806,958	846,926	861,184	880,802	869,953	859,380	849,076	
growth				259%	135%	58%	33%	16%	7%	8%	5%	2%	2%	-1%	-1%	-1%	
<b>Total Collaboration &amp; License Revenue</b>	2,500	52,500	27,500	2,500	2,500	2,500	-	-	-	-	-	-	-	-	-	-	
<b>Total Revenue</b>	2,500	52,500	61,400	124,275	288,304	455,432	602,257	698,734	744,771	806,958	846,926	861,184	880,802	869,953	859,380	849,076	
growth	-93%	2000%	17%	102%	132%	58%	32%	16%	7%	8%	5%	2%	2%	-1%	-1%	-1%	
<b>Margins</b>																	
Gross margin			85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
R&D			265%	82%	35%	28%	28%	25%	22%	20%	20%	20%	20%	20%	20%	20%	
SG&A			324%	103%	52%	39%	35%	32%	30%	29%	27%	27%	27%	26%	26%	25%	
Operating expenses			590%	185%	87%	66%	63%	57%	52%	49%	47%	47%	47%	46%	46%	45%	
EBIT margin			-424%	-98%	-2%	19%	22%	28%	33%	36%	38%	38%	38%	39%	39%	40%	
<b>P&amp;L/Cash Flow</b>																	
COGS	-	-	5,085	18,266	42,871	67,940	90,339	104,810	111,716	121,044	127,039	129,178	132,120	130,493	128,907	127,361	
<b>Gross profit</b>	2,500	52,500	56,315	106,009	245,433	387,492	511,918	593,924	633,055	685,914	719,887	732,007	748,682	739,460	730,473	721,715	
R&D	80,000	90,000	90,000	100,000	100,000	125,000	168,632	174,683	163,850	161,392	169,385	172,237	176,160	173,991	171,876	169,815	
SG&A	20,000	50,000	110,000	125,000	150,000	175,000	210,790	223,595	223,431	234,018	228,670	232,520	237,817	226,188	223,439	212,269	
<b>Operating expenses</b>	100,000	140,000	200,000	225,000	250,000	300,000	379,422	398,278	387,281	395,409	398,055	404,757	413,977	400,179	395,315	382,084	
<b>EBIT</b>	(97,500)	(87,500)	(143,685)	(118,991)	(4,567)	87,492	132,497	195,645	245,774	290,505	321,832	327,250	334,705	339,282	335,158	339,630	
Tax rate	0%	0%	0%	0%	0%	0%	5%	10%	20%	35%	35%	35%	35%	35%	35%	35%	
Tax	-	-	-	-	-	-	(6,625)	(19,565)	(49,155)	(101,677)	(112,641)	(114,538)	(117,147)	(118,749)	(117,305)	(118,871)	
D&A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Acquisitions/capex	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Change in NWC	900	(4,905)	(4,928)	(10,479)	(25,289)	(15,107)	(16,214)	(9,666)	(3,982)	(7,486)	(3,996)	-	-	-	-	-	
<b>Free Cash Flow</b>	(96,600)	(92,405)	(148,613)	(129,470)	(29,856)	72,385	109,658	166,414	192,637	181,342	205,194	212,713	217,558	220,533	217,853	220,760	
<b>PV Analysis</b>																	
Year	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PV factor	1.00	1.11	1.23	1.37	1.52	1.69	1.87	2.08	2.30	2.56	2.84	3.15	3.50	3.88	4.31	4.78	5.31
<b>PV of FCF</b>	(96,600)	(83,248)	(120,618)	(94,668)	(19,667)	42,957	58,627	80,155	83,590	70,891	72,266	67,490	62,187	56,790	50,541	46,140	380,653
<b>DCF</b>																	
WACC	11%																
Terminal growth rate	-1%																
PV of estimate periods (now-2030)	278,835																
Terminal PV	380,653																
<b>PV of FCF</b>	657,487																
<b>Probability of Success</b>	75%																
Less: net debt	(168,683)																
<b>Equity value</b>	661,799																
2015 YE Shares Outstanding	32,704																
<b>Price per share</b>	20.24																

Source: Company reports and J.P. Morgan estimates.

Figure 21: Coherus P&L 2012-2025E

\$ in thousands

thousands USD Fiscal year ends December 31	FY 2012A	FY 2013A	FY 2014E	FY 2015E	FY 2016E	FY 2017E	FY 2018E	FY 2019E	FY 2020E	FY 2021E	FY2022E	FY 2023E	FY 2024E	FY 2025E
<b>Income Statement</b>														
Ex-US etanercept	-	-	-	-	-	1,557	7,007	15,571	19,464	23,356	27,249	27,249	27,249	27,249
US pegfilgrastim	-	-	-	-	-	26,058	68,035	119,436	144,957	172,342	179,287	186,512	194,029	201,848
Ex-US pegfilgrastim	-	-	-	-	-	-	3,575	12,132	16,593	19,153	21,763	24,423	27,134	27,405
US adalimumab	-	-	-	-	-	6,285	37,696	93,722	146,263	188,972	228,892	221,796	214,921	208,258
Ex-US adalimumab	-	-	-	-	-	-	5,462	39,943	100,656	143,434	166,543	179,791	218,626	227,166
Total New Pipeline Biosimilar Assets	-	-	-	-	-	-	-	5,000	25,000	55,000	75,000	105,000	125,000	155,000
Total product revenue	-	-	-	-	-	33,900	121,775	285,804	452,932	602,257	698,734	744,771	806,958	846,926
Collaboration and license revenue - Daiichi	1,899	2,025	2,027	2,500	2,500	2,500	2,500	2,500	2,500	-	-	-	-	-
Collaboration and license revenue - Baxter	-	726	32,548	-	50,000	25,000	-	-	-	-	-	-	-	-
Collaboration and license revenue - pegfilgrastim	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total revenue</b>	<b>1,899</b>	<b>2,751</b>	<b>34,575</b>	<b>2,500</b>	<b>52,500</b>	<b>61,400</b>	<b>124,275</b>	<b>288,304</b>	<b>455,432</b>	<b>602,257</b>	<b>698,734</b>	<b>744,771</b>	<b>806,958</b>	<b>846,926</b>
Cost of goods sold	-	-	-	-	-	5,085	18,266	42,871	67,940	90,339	104,810	111,716	121,044	127,039
<b>Gross profit</b>	<b>1,899</b>	<b>2,751</b>	<b>34,575</b>	<b>2,500</b>	<b>52,500</b>	<b>56,315</b>	<b>106,009</b>	<b>245,433</b>	<b>387,492</b>	<b>511,918</b>	<b>593,924</b>	<b>633,055</b>	<b>685,914</b>	<b>719,887</b>
R&D	34,886	31,279	72,861	80,000	90,000	90,000	100,000	100,000	125,000	168,632	174,683	163,850	161,392	169,385
SG&A	5,531	7,465	15,399	20,000	75,000	110,000	125,000	150,000	175,000	210,790	223,595	223,431	234,018	228,670
<b>Total operating expense</b>	<b>40,417</b>	<b>38,744</b>	<b>88,260</b>	<b>100,000</b>	<b>165,000</b>	<b>200,000</b>	<b>225,000</b>	<b>250,000</b>	<b>300,000</b>	<b>379,422</b>	<b>398,278</b>	<b>387,281</b>	<b>395,409</b>	<b>398,055</b>
<b>Income (loss) from operations (EBIT)</b>	<b>(38,518)</b>	<b>(35,993)</b>	<b>(53,685)</b>	<b>(97,500)</b>	<b>(112,500)</b>	<b>(143,685)</b>	<b>(118,991)</b>	<b>(4,567)</b>	<b>87,492</b>	<b>132,497</b>	<b>195,645</b>	<b>245,774</b>	<b>290,505</b>	<b>321,832</b>
Interest income (expense)	(1,514)	(5,293)	(6,899)	-	-	-	-	-	-	-	-	-	-	-
Other income	7,014	(12,349)	(14,642)	-	-	-	-	-	-	-	-	-	-	-
<b>Total other income (expense)</b>	<b>5,500</b>	<b>(17,642)</b>	<b>(21,541)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Earnings (loss) before tax (EBT)</b>	<b>(33,018)</b>	<b>(53,635)</b>	<b>(75,226)</b>	<b>(97,500)</b>	<b>(112,500)</b>	<b>(143,685)</b>	<b>(118,991)</b>	<b>(4,567)</b>	<b>87,492</b>	<b>132,497</b>	<b>195,645</b>	<b>245,774</b>	<b>290,505</b>	<b>321,832</b>
Income tax (expense)	-	-	-	-	-	-	-	-	-	6,625	19,565	49,155	101,677	112,641
<b>NET INCOME</b>	<b>(33,018)</b>	<b>(53,635)</b>	<b>(75,226)</b>	<b>(97,500)</b>	<b>(112,500)</b>	<b>(143,685)</b>	<b>(118,991)</b>	<b>(4,567)</b>	<b>87,492</b>	<b>125,872</b>	<b>176,081</b>	<b>196,620</b>	<b>188,828</b>	<b>209,191</b>
<b>EPS</b>	<b>(9.51)</b>	<b>(9.66)</b>	<b>(5.62)</b>	<b>(2.98)</b>	<b>(3.05)</b>	<b>(3.32)</b>	<b>(2.49)</b>	<b>(0.09)</b>	<b>1.73</b>	<b>2.47</b>	<b>3.42</b>	<b>3.79</b>	<b>3.62</b>	<b>3.99</b>
Basic shares outstanding	3,472	5,554	13,387	32,704	36,838	43,237	47,768	50,096	50,519	50,973	51,428	51,828	52,174	52,480
FD shares outstanding	3,472	5,554	13,387	32,704	36,838	43,237	47,768	50,096	50,519	50,973	51,428	51,828	52,174	52,480
<b>Margins</b>														
Gross margin			100%	100%	100%	85%	85%	85%	85%	85%	85%	85%	85%	85%
R&D						147%	80%	35%	27%	28%	25%	22%	20%	20%
SG&A						179%	101%	52%	38%	35%	32%	30%	29%	27%
<b>Operating margin</b>						-234%	-96%	-2%	19%	22%	28%	33%	36%	38%
<b>Pretax margin</b>						-234%	-96%	-2%	19%	22%	28%	33%	36%	38%
Tax rate					0%	0%	0%	0%	0%	5%	10%	20%	35%	35%
<b>NET MARGIN</b>						-234%	-96%	-2%	19%	21%	25%	26%	23%	25%
<b>Growth Rates</b>														
Revenue		45%	1157%	-93%	2000%	17%	102%	132%	58%	32%	16%	7%	8%	5%
COGS		n/a	n/a	n/a	n/a	n/a	259%	135%	58%	33%	16%	7%	8%	5%
Gross profit		45%	1157%	-93%	2000%	7%	88%	132%	58%	32%	16%	7%	8%	5%
R&D		-10%	133%	10%	13%	0%	11%	0%	25%	35%	4%	-6%	-2%	5%
SG&A		35%	106%	30%	275%	47%	14%	20%	17%	20%	6%	0%	5%	-2%
Operating income		-4%	128%	13%	65%	21%	13%	11%	20%	26%	5%	-3%	2%	1%
Pretax income		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	51%	48%	26%	18%	11%
<b>NET INCOME</b>		<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>44%</b>	<b>40%</b>	<b>12%</b>	<b>-4%</b>	<b>11%</b>
<b>EPS</b>		<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>43%</b>	<b>39%</b>	<b>11%</b>	<b>-5%</b>	<b>10%</b>
FD shares outstanding (sequential)		60%	141%	144%	13%	17%	10%	5%	1%	1%	1%	1%	1%	1%

Source: Company reports and J.P. Morgan estimates.

Figure 22: CHS-0214 (biosimilar etanercept) ex-US Revenue Model

\$ in thousands

thousands USD Fiscal year ends December 31	FY 2012A	FY 2013A	FY 2014E	FY 2015E	FY 2016E	FY 2017E	FY 2018E	FY 2019E	FY 2020E	FY 2021E	FY2022E	FY 2023E	FY 2024E	FY 2025E
<b>Patient # Calculation</b>														
Ex-US Enbrel Sales (from Pfizer Model)	3,737,000	3,774,000	3,800,750	3,686,728	3,686,728	3,502,391	3,327,272	3,160,908	2,908,035					
Price per patient	12.0	12.2	12.5	12.7	13.0	13.2	13.5	13.8	14.1					
growth		2%	2%	2%	2%	2%	2%	2%	2%					
<b>Calculated Ex-US Patient Population</b>	311,417	308,333	304,430	289,507	283,831	264,352	246,210	229,313	206,832					
growth		-1%	-1%	-5%	-2%	-7%	-7%	-7%	-10%					
<b>Biosimilar Penetration</b>														
Ex-US Patient Population	311,417	311,417	311,417	311,417	311,417	311,417	311,417	311,417	311,417	311,417	311,417	311,417	311,417	311,417
growth		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Biosimilar Penetration	0.0%	0.0%	0.0%	0.0%	2.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	35.0%	35.0%	35.0%
<b>Patients on biosimilar etanercept</b>	-	-	-	-	6,228	31,142	46,713	62,283	77,854	93,425	108,996	108,996	108,996	108,996
<b>Biosimilar Market Share</b>														
Coherus CHS-0214	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	15.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
<b>Coherus CHS-0214 Revenue</b>														
CHS-0214 Patients	-	-	-	-	-	1,557	7,007	15,571	19,464	23,356	27,249	27,249	27,249	27,249
Initial discount to innovator						20%	25%	30%	30%					
Pricing						10.6	10.1	9.6	9.8	9.5	9.3	9.0	8.7	8.5
growth						-4%	-4%	-5%	2%	-3%	-3%	-3%	-3%	-3%
<b>CHS-0214 Revenue</b>						16,504	71,018	150,242	191,559	222,975	252,333	244,763	237,420	230,298
% Royalty to Coherus						12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
<b>Coherus CHS-0214 Royalty Revenue</b>						1,980	8,522	18,029	22,987	26,757	30,280	29,372	28,490	27,636
growth							330%	112%	27%	16%	13%	-3%	-3%	-3%
<b>Coherus CHS-0214 Revenue</b>						1,980	8,522	18,029	22,987	26,757	30,280	29,372	28,490	27,636

Source: Company reports and J.P. Morgan estimates.



Figure 23: CHS-1420 (biosimilar adalimumab) Revenue Model

\$ in thousands

thousands USD Fiscal year ends December 31	FY 2012A	FY 2013A	FY 2014E	FY 2015E	FY 2016E	FY 2017E	FY 2018E	FY 2019E	FY 2020E	FY 2021E	FY2022E	FY 2023E	FY 2024E	FY 2025E
<b>US Patient # Calculation</b>														
US Humira Sales (from AbbVie Model)	4,377,000	5,236,000	6,592,400	7,383,488	8,121,837	8,609,147	8,953,513	9,043,048	8,862,187					
Price per patient	21.0	24.2	27.8	30.0	31.8	33.4	35.1	36.8	37.5					
growth		15%	15%	8%	6%	5%	5%	5%	2%					
Calculated US Patient Population	208,429	216,812	237,372	246,163	255,452	257,885	255,429	245,698	236,063					
growth		4%	9%	4%	4%	1%	-1%	-4%	-4%					
<b>US Biosimilar Penetration</b>														
US Patient Population	208,429	218,850	229,793	241,282	246,108	251,030	256,051	261,172	266,395	271,723	277,157	282,700	288,354	294,122
growth		5%	5%	5%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Biosimilar Penetration	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	25.0%	25.0%	25.0%
Patients on biosimilar adalimumab	-	-	-	-	-	5,021	12,803	26,117	39,959	54,345	69,289	70,675	72,089	73,530
<b>US Biosimilar Market Share</b>														
Coherus CHS-1420	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	12.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
<b>Coherus CHS-1420 US Revenue</b>														
CHS-1420 Patients	-	-	-	-	-	251	1,536	3,918	5,994	8,152	10,393	10,601	10,813	11,030
Initial discount to innovator						25%	30%	35%	35%					
Pricing						25.0	24.5	23.9	24.4	23.2	22.0	20.9	19.9	18.9
growth							-2%	-2%	2%	-5%	-5%	-5%	-5%	-5%
Coherus CHS-1420 US Revenue						6,285	37,696	93,722	146,263	188,972	228,892	221,796	214,921	208,258
growth							500%	149%	56%	29%	21%	-3%	-3%	-3%
Coherus US Revenue						6,285	37,696	93,722	146,263	188,972	228,892	221,796	214,921	208,258
<b>ex-US Patient # Calculation</b>														
ex-US Humira Sales (from AbbVie Model)	4,889,000	5,423,000	6,069,760	6,616,038	7,277,642	7,859,854	7,859,854	7,624,058	7,242,855					
Price per patient	12.0	12.6	13.2	13.9	14.6	15.3	16.1	16.9	17.7					
growth		5%	5%	5%	5%	5%	5%	5%	5%					
Calculated ex-US Patient Population	407,417	430,397	458,788	476,265	498,945	513,200	488,762	451,523	408,521					
growth		6%	7%	4%	5%	3%	-5%	-8%	-10%					
<b>ex-US Biosimilar Penetration</b>														
ex-US Patient Population	407,417	431,862	457,773	485,240	485,240	485,240	485,240	485,240	485,240	485,240	485,240	485,240	485,240	485,240
growth		6%	6%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Biosimilar Penetration	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	5.0%	12.0%	18.0%	22.0%	25.0%	32.0%	35.0%
Patients on biosimilar adalimumab	-	-	-	-	-	-	9,705	24,262	58,229	87,343	106,753	121,310	155,277	169,834
<b>ex-US Biosimilar Market Share</b>														
Coherus CHS-1420	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
<b>Coherus CHS-1420 ex-US Revenue</b>														
CHS-1420 Patients	-	-	-	-	-	-	485	3,639	8,734	13,101	16,013	18,196	23,292	25,475
Initial discount to innovator							28%	30%	35%					
Pricing							11.1	11.3	11.0	11.5	10.9	10.4	9.9	8.9
growth							1%	-2%	5%	-5%	-5%	-5%	-5%	-5%
Coherus CHS-1420 ex-US Revenue						-	5,462	39,943	100,656	143,434	166,543	179,791	218,626	227,166
growth								631%	152%	43%	16%	8%	22%	4%
ex-US Coherus Revenue						-	5,462	39,943	100,656	143,434	166,543	179,791	218,626	227,166

Source: Company reports and J.P. Morgan estimates.

Figure 24: CHS-1701 (biosimilar pegfilgrastim) Revenue Model

\$ in thousands

thousands USD	FY 2012A	FY 2013A	FY 2014E	FY 2015E	FY 2016E	FY 2017E	FY 2018E	FY 2019E	FY 2020E	FY 2021E	FY 2022E	FY 2023E	FY 2024E	FY 2025E
<b>Fiscal year ends December 31</b>														
<b>US Patient # Calculation</b>														
US Patients on Chemotherapy	1,420,000	1,434,200	1,448,542	1,463,027	1,477,658	1,492,434	1,507,359	1,522,432	1,537,657	1,553,033	1,568,563	1,584,249	1,600,092	1,616,092
growth		1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
% patients at high neutropenia risk	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
US Patients at High Neutropenia Risk	639,000	645,390	651,844	658,362	664,946	671,595	678,311	685,094	691,945	698,865	705,854	712,912	720,041	727,242
% Neulasta/pegfilgrastim penetration	72%	74%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
<b>Calculated US Patient Population</b>	460,080	477,589	488,883	493,772	498,709	503,697	508,734	513,821	518,959	524,149	529,390	534,684	540,031	545,431
growth		4%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
<b>US Biosimilar Penetration</b>														
Ex-US Patient Population	460,080	477,589	488,883	493,772	498,709	503,697	508,734	513,821	518,959	524,149	529,390	534,684	540,031	545,431
Biosimilar Penetration	0.0%	0.0%	0.0%	0.0%	5.0%	15.0%	20.0%	30.0%	35.0%	40.0%	40.0%	40.0%	40.0%	40.0%
<b>US Patients on biosimilar pegfilgrastim</b>	-	-	-	-	24,935	75,554	101,747	154,146	181,636	209,659	211,756	213,874	216,012	218,172
<b>US Biosimilar Market Share</b>														
Coherus CHS-1701	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	10.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
<b>Coherus Revenue</b>														
US CHS-1701 Patients	-	-	-	-	-	3,778	10,175	18,498	21,796	25,159	25,411	25,665	25,921	26,181
Initial discount to innovator						15%	20%	25%	25%	25%	25%	25%	25%	25%
US Pricing						6.9	6.7	6.5	6.7	6.9	7.1	7.3	7.5	7.7
growth						-3%	-3%	-3%	3%	3%	3%	3%	3%	3%
<b>US CHS-1701 Revenue</b>						26,058	68,035	119,436	144,957	172,342	179,287	186,512	194,029	201,848
% Royalty to Coherus						100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Coherus US CHS-1701 Royalty Revenue</b>						26,058	68,035	119,436	144,957	172,342	179,287	186,512	194,029	201,848
growth								76%	21%	19%	4%	4%	4%	4%
<b>Coherus US CHS-1701 Revenue</b>						26,058	68,035	119,436	144,957	172,342	179,287	186,512	194,029	201,848
<b>ex-US Patient # Calculation</b>														
ex-US Patients on Chemotherapy	1,278,000	1,290,780	1,303,688	1,316,725	1,329,892	1,343,191	1,356,623	1,370,189	1,383,891	1,397,730	1,411,707	1,425,824	1,440,082	1,454,483
growth		1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
% patients at high neutropenia risk	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
ex-US Patients at High Neutropenia Risk	575,100	580,851	586,660	592,526	598,451	604,436	610,480	616,585	622,751	628,978	635,268	641,621	648,037	654,517
% Neulasta/pegfilgrastim penetration	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
<b>Calculated ex-US Patient Population</b>	184,032	185,872	187,731	189,608	191,504	193,419	195,354	197,307	199,280	201,273	203,286	205,319	207,372	209,446
growth		1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
<b>ex-US Biosimilar Penetration</b>														
ex-US Patient Population	184,032	185,872	187,731	189,608	191,504	193,419	195,354	197,307	199,280	201,273	203,286	205,319	207,372	209,446
Biosimilar Penetration	0.0%	0.0%	0.0%	0.0%	5.0%	10.0%	20.0%	30.0%	35.0%	40.0%	45.0%	50.0%	55.0%	55.0%
<b>ex-US Patients on biosimilar pegfilgrastim</b>	-	-	-	-	9,575	19,342	39,071	59,192	69,748	80,509	91,479	102,659	114,055	115,195
<b>ex-US Biosimilar Market Share</b>														
Coherus CHS-1701	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	12.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
<b>Coherus Revenue</b>														
ex-US CHS-1701 Patients	-	-	-	-	-	-	1,954	7,103	10,462	12,076	13,722	15,399	17,108	17,279
Initial discount to innovator							25%	30%	35%	35%	35%	35%	35%	35%
ex-US Pricing							3.9	3.7	3.4	3.2	3.2	3.2	3.2	3.2
growth							-6%	-7%	-7%	0%	0%	0%	0%	0%
<b>ex-US CHS-1701 Revenue</b>							7,150	24,264	33,186	38,306	43,526	48,845	54,267	54,810
% Royalty to Coherus							50%	50%	50%	50%	50%	50%	50%	50%
<b>Coherus ex-US CHS-1701 Royalty Revenue</b>							3,575	12,132	16,593	19,153	21,763	24,423	27,134	27,405
growth								239%	37%	15%	14%	12%	11%	1%
<b>Coherus ex-US CHS-1701 Revenue</b>							-	3,575	12,132	16,593	19,153	21,763	24,423	27,405

Source: Company reports and J.P. Morgan estimates.

## Coherus: Summary of Financials

Income Statement - Annual	FY13A	FY14E	FY15E	FY16E	Income Statement - Quarterly	1Q14E	2Q14E	3Q14E	4Q14E
Revenues	2,751	34,575	2,500	52,500	Revenues	-	-	-	-
Cost of products sold	0	0	0	0	Cost of products sold	-	-	-	-
Gross profit	-	-	-	-	Gross profit	-	-	-	-
SG&A	(7,465)	(15,399)	(20,000)	(75,000)	SG&A	-	-	-	-
R&D	(31,279)	(72,861)	(80,000)	(90,000)	R&D	-	-	-	-
Operating income	(35,993)	(53,685)	(97,500)	(112,500)	Operating income	-	-	-	-
Net interest (income) / expense	(5,293)	(6,899)	0	0	Net interest (income) / expense	-	-	-	-
Other income / (expense)	(12,349)	(14,642)	0	0	Other income / (expense)	-	-	-	-
Pretax income	(53,635)	(75,226)	(97,500)	(112,500)	Pretax income	-	-	-	-
Income taxes	0	0	0	0	Income taxes	0	0	0	0
Net income - recurring	(53,635)	(75,226)	(97,500)	(112,500)	Net income - recurring	0	0	0	0
Diluted shares outstanding	-	-	-	-	Diluted shares outstanding	-	-	-	-
EPS - excluding non-recurring	(9.66)	(5.62)	(2.98)	(3.05)	EPS - excluding non-recurring	-	-	-	-
EPS - recurring	(9.66)	(5.62)	(2.98)	(3.05)	EPS - recurring	-	-	-	-
Balance Sheet and Cash Flow Data	FY13A	FY14E	FY15E	FY16E	Ratio Analysis	FY13A	FY14E	FY15E	FY16E
Cash and cash equivalents	39,554	168,633	76,783	117,378	Sales growth	44.9%	1156.8%	(92.8%)	2000.0%
Short Term Investment	-	-	-	-	EBIT growth	(6.6%)	49.2%	81.6%	15.4%
Accounts receivable	385	407	507	5,412	EPS growth - recurring	1.5%	(41.8%)	(47.0%)	2.4%
Inventories	-	-	-	-	Gross margin	-	-	-	-
Other current assets	5,738	5,738	5,738	5,738	EBIT margin	(1308.4%)	(155.3%)	(3900.0%)	(214.3%)
Current assets	45,677	174,778	83,028	128,528	Tax rate	0.0%	0.0%	0.0%	0.0%
PP&E	1,743	1,993	2,243	2,493	Net Profit Margin	(1949.7%)	(217.6%)	(3900.0%)	(214.3%)
Total assets	47,447	176,798	85,298	131,048					
Total debt	28,454	28,454	28,454	28,454					
Total liabilities	144,524	145,222	146,222	146,222					
Shareholders' equity	(97,077)	31,576	(60,924)	(15,174)					
Net income (including charges)	(53,635)	(75,226)	(97,500)	(112,500)					
D&A	404	0	0	0					
Change in working capital	41,415	0	900	(4,905)					
Other	17,615	119,555	0	0					
Cash flow from operations	15,423	44,329	(96,600)	(117,405)					
Capex	(373)	(250)	(250)	(250)					
Free cash flow	20,343	50,978	(96,850)	(117,655)					
Cash flow from investing activities	(373)	(250)	(250)	(250)					
Cash flow from financing activities	9,956	85,000	5,000	158,250					

Source: Company reports and J.P. Morgan estimates.

Note: \$ in millions (except per-share data). Fiscal year ends Dec

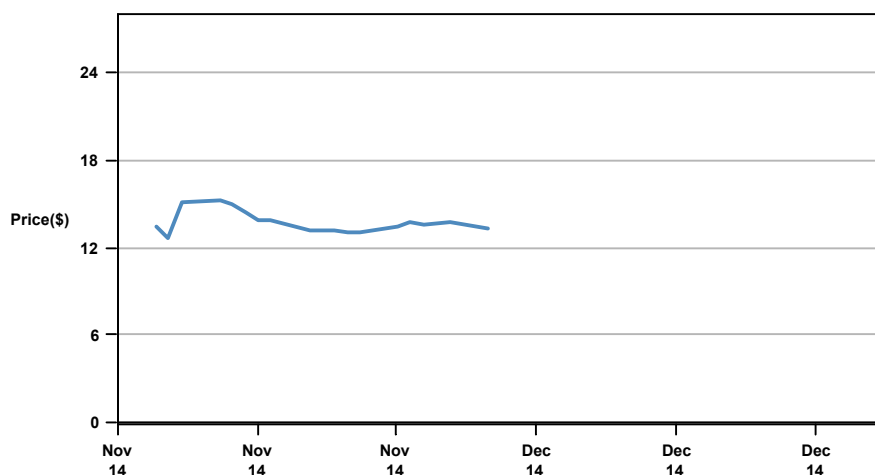
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Coherus (CHRS, CHRS US) Price Chart



Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends.

The chart(s) show J.P. Morgan's continuing coverage of the stocks; the current analysts may or may not have covered it over the entire period.

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