



## InnoCentive: More Than Just a Mental Exercise for Organic Chemists

The brightest brains are not always found around the corner, but rather spread all over the world. In order to take advantage of this brain pool for economic purposes, Eli Lilly & Co. founded an ideas marketplace in the "global village". At the InnoCentive web site (Figure 1), companies can present current chemistry problems announcing a cash reward that usually ranges from 2000 to 100 000 US\$.

The InnoCentive web site is well organized and easy to use. Modern users are not slowed down by high-resolution graphics or applets. In short, it is easy to use and fully functional.

Let's have a look at the current problems and click on "InnoCentive Challenges". In general, there are about 8–12 current problems, most of which involve organic synthesis. Analytical chemists will not make a fortune here.

However, a higher fraction of analytical problems and challenges from further areas is strived for.

One of these problems catches our attention: a cyclic glycine derivative. "Well, that's simple", every advanced student thinks and quickly develops a ring-closing metathesis approach from diallylglycine. A 50 000 US\$ problem solved instantly "while conducting Mozart with a celery stick" as described in the InnoCentive advertisement? Of course not.

You only get access to the exact problem specifications after registration as a solver. Besides developing an optimized few-step synthetic strategy without any toxic materials which is amenable for large-scale production, you also have to supply a highly pure multigram sample and all available spectra. Just a good written suggestion will not fulfill the requirements in this nor in most other cases.

Which target groups is InnoCentive aiming at? Chemists in industry are usually not allowed to support competing companies. Moreover, small companies will not be attracted to solve even small problems for a reward of only 50 000 US\$. So actually, the target group are advanced students or university staff, who know a solution to the key step from their own studies or recent publications. But it is a utopian idea that those who have a good idea will also have the laboratory infrastructure and time to verify this idea experimentally. Therefore, many promising ideas will never be proposed short of a sample.

So, although it is quite understandable that solution seekers require a sample, pure "paper chemistry" problems are certainly more likely to be solved. No wonder that the majority of rewards was given in the "paper chemistry" sector, though this type of problem is a small minority. The most important part of a solution is the brilliant idea, and that brilliant

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**INNOCENTIVE**  
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We are seeking a novel synthetic route that will allow this compound to be prepared from readily available raw materials. The synthetic route must be amenable to large scale production (several thousand kg/year). Please provide a detailed description of your proposed synthetic pathway with supporting experimental data (methods and conditions). The route will need to be reproduced in the solver's laboratory for verification. A match to reference spectral data (available on request by registered solvers) and the delivery of a multigram sample will be required. Avoid highly toxic reagents and solvents (carcinogens, allergens, reproductive hazards, or highly potent compounds) as well as excessive reaction temperatures ( $-30^{\circ}\text{C}$  to  $150^{\circ}\text{C}$ ).

**INNOCENTIVE 1160** \$50,000 USD  
Deadline: Jul 01, 2002  
STATUS: OPEN

**WORK ON THIS INNOCENTIVE**  
You will give your answer to the detailed information and requirements about this InnoCentive. You will be asked to sign an agreement. If you have not previously done so:

Ask a question about this InnoCentive  
Email this... or go online to a board

Figure 2. Sample problem: several grams required.

idea should be rewarded by more than just 2000 US\$.

Let's wait and see if time has come for a company like InnoCentive. I think it is a good idea because all the parties are winners. But if the project is to succeed in the long run, a much higher number of solution seekers apart from Eli Lilly, problem challenges, potential solvers, and last but not least rewarded solutions will be necessary for prestige reasons. Especially the number of paper chemistry problems and their rewards should be increased to attract potential solvers. The percentage of solved problems and rewarded solutions is very small so far.

Suggest a web site or submit a review:  
[angewandte@wiley-vch.de](mailto:angewandte@wiley-vch.de)

Maybe InnoCentive should ask their solution seekers to offer two rewards for each synthetic problem: a standard reward for paper proposals and a higher reward if a sample is actually supplied.

InnoCentive surely is worthwhile spending some mouse clicks, even if you are just looking for mental exercise.

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**FEATURED InnoCentive Scientific Challenges**

**INNOCENTIVE 109513**  
CIS-PTAP  
DEC 01, 2002  
\$40,000 USD

**INNOCENTIVE 10951**  
JUL 01, 2002  
\$100,000 USD

**INNOCENTIVE 1100**  
JUL 01, 2002  
\$50,000 USD

**Refer a Solver**  
earn \$1000 USD with our referral rewards program  
click here

**welcome**  
Scientific research, as we know it, is about to change... welcome to InnoCentive, where there are no boundaries on intellect. Here, leading corporations post InnoCentive Scientific Challenges that need to be solved – and solvers receive cash incentives for the most innovative solution. InnoCentive is the first global initiative of its kind. And it's going to shake things up a bit. So, go ahead and cause a reaction...we already have.

**Meet InnoCentive at These Upcoming Events**

**Chemical Week**  
30th Annual e-Chemmerce Conference  
Best Practices for R&D  
April 25-26, 2002  
Philadelphia, PA

**2002**  
April 20-24, 2002  
New Orleans, LA

Figure 1. InnoCentive home page.