

CORRIGENDUM

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**Direct Asymmetric Intermolecular
Aldol Reactions Catalyzed by Amino
Acids and Small Peptides**

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We would like to point out an error of omission of a citation and present an accurate definition of eutectic in reference [29] in our paper (DOI: 10.1002/chem.200501639; submitted: December 29, 2005, published online: April 25, 2005).

We were remiss not to state that the concept relating eutectics of amino acids to nonlinear effects in asymmetric catalysis had previously been presented at the Erdtman Lecture at KTH Stockholm by Prof. D. G. Blackmond on November 29, 2005. This work is now published (see M. Klusmann, H. Iwamura, S. P. Matthew, D. H. Wells, U. Pandya, A. Armstrong, D. G. Blackmond, *Nature* **2006**, *441*, 621; submitted November 21, 2005). We fully agree that the Blackmond group was the first to introduce this concept.

Our discussion implied that we measured the eutectics of valine and alanine in this work, which we did not. We would like to clarify the definition of a eutectic with respect to these scalemic amino acid systems. We stated that the eutectic point is the point at which all three phases, (*R*)-amino acid, (*S*)-amino acid and DMSO can exist simultaneously. We are grateful to Prof. Donna Blackmond for providing us with the correct definition of a eutectic in the context of these amino acid systems: In an isothermal, three-component system at equilibrium consisting of (*R*)-amino acid, (*S*)-amino acid, and solvent, containing two distinct solid phases and one solution phase, the eutectic composition is dictated by the phase rule and is described as a point on the phase diagram where three separate phases intersect. The phase rule also dictates that the solution composition at the eutectic is fixed in this case and hence this composition is identical for any given (*R*)- and (*S*)-enantiomeric composition employed.

The *ee* [%] for the (*S*)-alanine-catalyzed reaction in water given in Table 3, entry 17, should read 0% *ee* and not 67% *ee*.

Editorial Note: D. G. Blackmond and co-workers transmitted their experimental observations prior to A. Cordova et al. The data in the paper by Cordova and co-workers describing nonlinear effects at higher alanine and valine concentrations were obtained during the week December 1–6, 2005. In addition, the experimental data presented in Figure 2 in the paper by Cordova and co-workers (showing striking asymmetric amplification in an asymmetric aldol reaction using scalemic serine as catalyst) were acquired on December 5, 2005. The *Nature* paper by Blackmond and co-workers referenced above represents, to our knowledge, the first measurement of eutectic points of free amino acids that form racemic compounds and the first comprehensive interpretation of nonlinear effects in asymmetric catalysis using acyclic amino acids as catalysts.