

Enhanced Conversion of Racemic α - Arylalanines to (*R*)- β -Arylalanines by Coupled Racemase/Aminomutase Catalysis

Brad M. Cox,[†] Joshua B. Bilsborrow,[†] and Kevin D. Walker^{†‡}*

Department of Chemistry,[†] and Department of Biochemistry and Molecular Biology,[‡]

Michigan State University, East Lansing, MI 48824

Supporting Information

Chemicals.

The following commercially available α -amino acids were used without further purification:

α -Amino acids (*S*)-, (*R*)- and (*R,S*)- α -phenylalanines

(*S*)-3-(2'-thienyl)alanine

(*R,S*)-3-(2'-thienyl)alanine

(*S*)-2-Amino-3-(3-methylphenyl)propionic acid

(*S*)-2-amino-3-(2-fluorophenyl)propionic acid

(*S*)-2-amino-3-(3-fluorophenyl)propionic acid,

(*S*)-2-amino-3-(4-fluorophenyl)propionic acid

(*S*)-2-amino-3-(2-furanyl)propionic acid

(*S*)-2-amino-3-(4-methylphenyl)propionic acid

The (*R,S*)-racemates of the following:

2-amino-3-(2-fluorophenyl)propionic acid

2-amino-3-(3-fluorophenyl)propionic acid

2-amino-3-(4-fluorophenyl)propionic acid

The following were synthesized by enzymatic isomerization of their corresponding (*S*)-amino acids (The details of the epimerization reaction are described in the Experimental Section of the main document):

(*R,S*)-2-Amino-3-(3-methylphenyl)propionic acid,

(*R,S*)-2-amino-3-(4-methylphenyl)propionic acid

(*R,S*)-2-amino-3-(2-furanyl)propionic acid

The following commercially available β -amino acids were used without further purification:

(*R*)-3-amino-3-phenylpropionic acid,

(*S*)-3-amino-3-phenylpropionic acid

(*R*)-3-amino-3-(3-methylphenyl)propionic acid

(*R*)-3-amino-3-(4-methylphenyl)propionic acid

(*R*)-3-amino-3-(2-fluorophenyl)propionic acid

(*R*)-3-amino-3-(3-fluorophenyl)propionic acid

(*R*)-3-Amino-3-(4-fluorophenyl)propionic acid

All other reagents were used without further purification, unless otherwise noted.