# Synthesis of new substrates for *phenylalanine ammonia-lyase*

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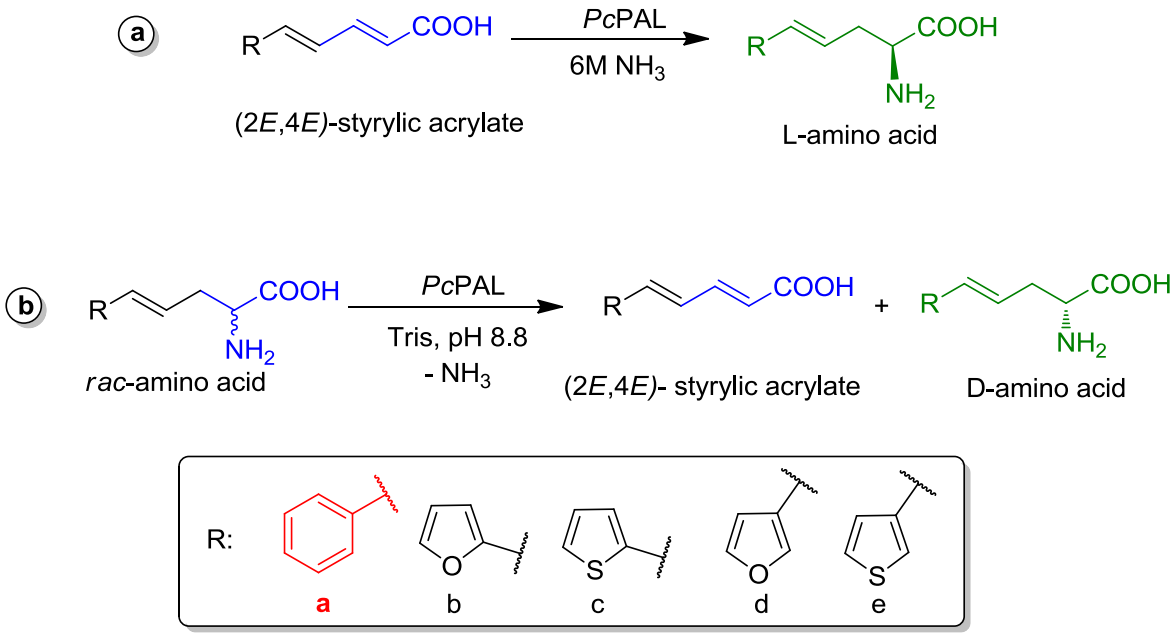
Phenylalanine ammonia lyase isolated from *Petroselinum crispum* (*Pc*PAL) gained increasing biocatalytic applications, due to its broad substrate specifity and high stereoselectivity [1]. The stereoconstructive nature of PAL was succesfully employed in the addition of ammonia to unsaturated achiral precursors obtaining L-amino acids (Scheme 1a). Furthermore the stereodistructive nature of PAL observed in the reverse reaction, the elimination of ammonia-from racemic aminoacids, leads to D-aminoacids (Scheme 1b). In this way a series of aryl-and heteroaryl D- and L-aminoacids were successfully obtained [2,3].

The increasing interest of pharmaceutical, agrochemical and fine chemical industries towards unnatural aminoacids directed us to expand the substrate scope of the PcPAL, for the synthesis of novel aryl-and heteroaryl aminoacids (Scheme 1).




**Scheme.1**: The ammonia addition (trace a) and ammonia elimination (trace b) reactions catalyzed by *Pc*PAL.

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