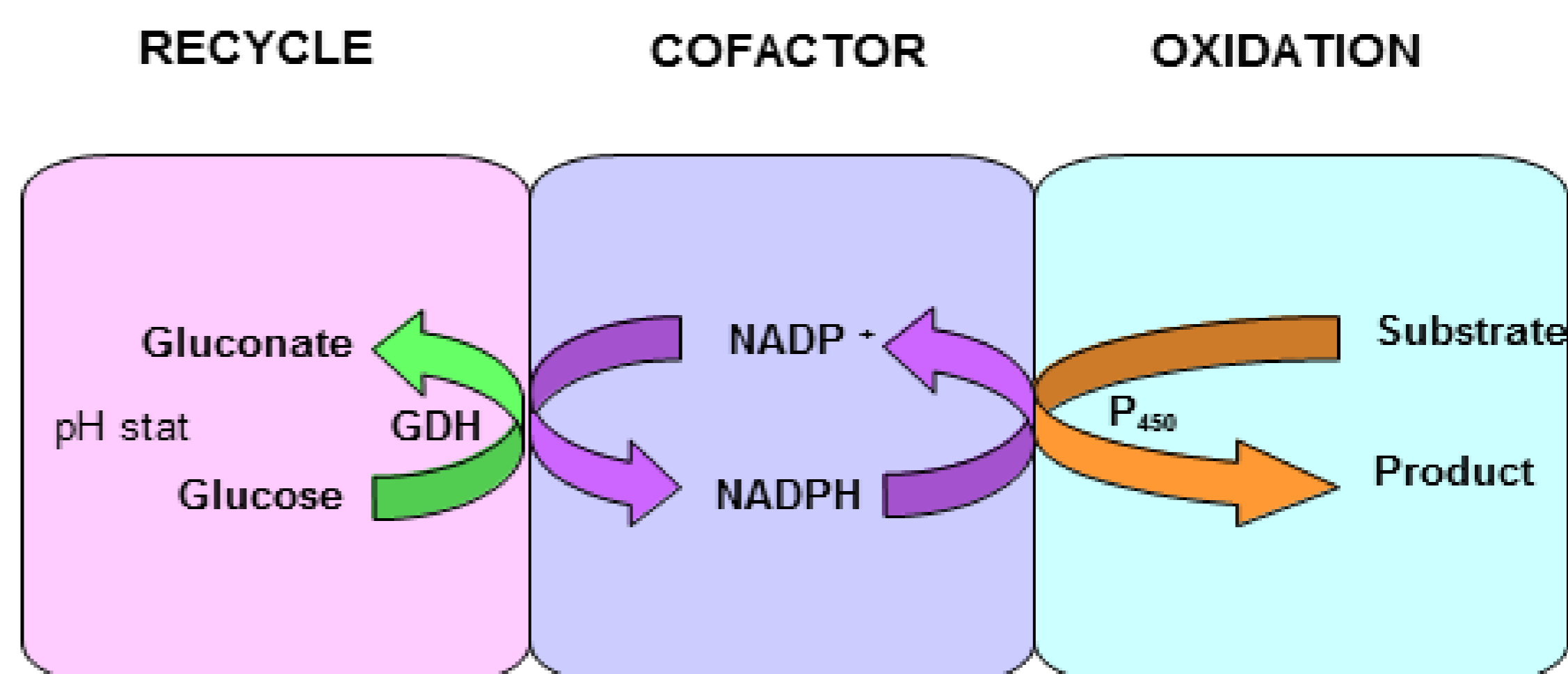
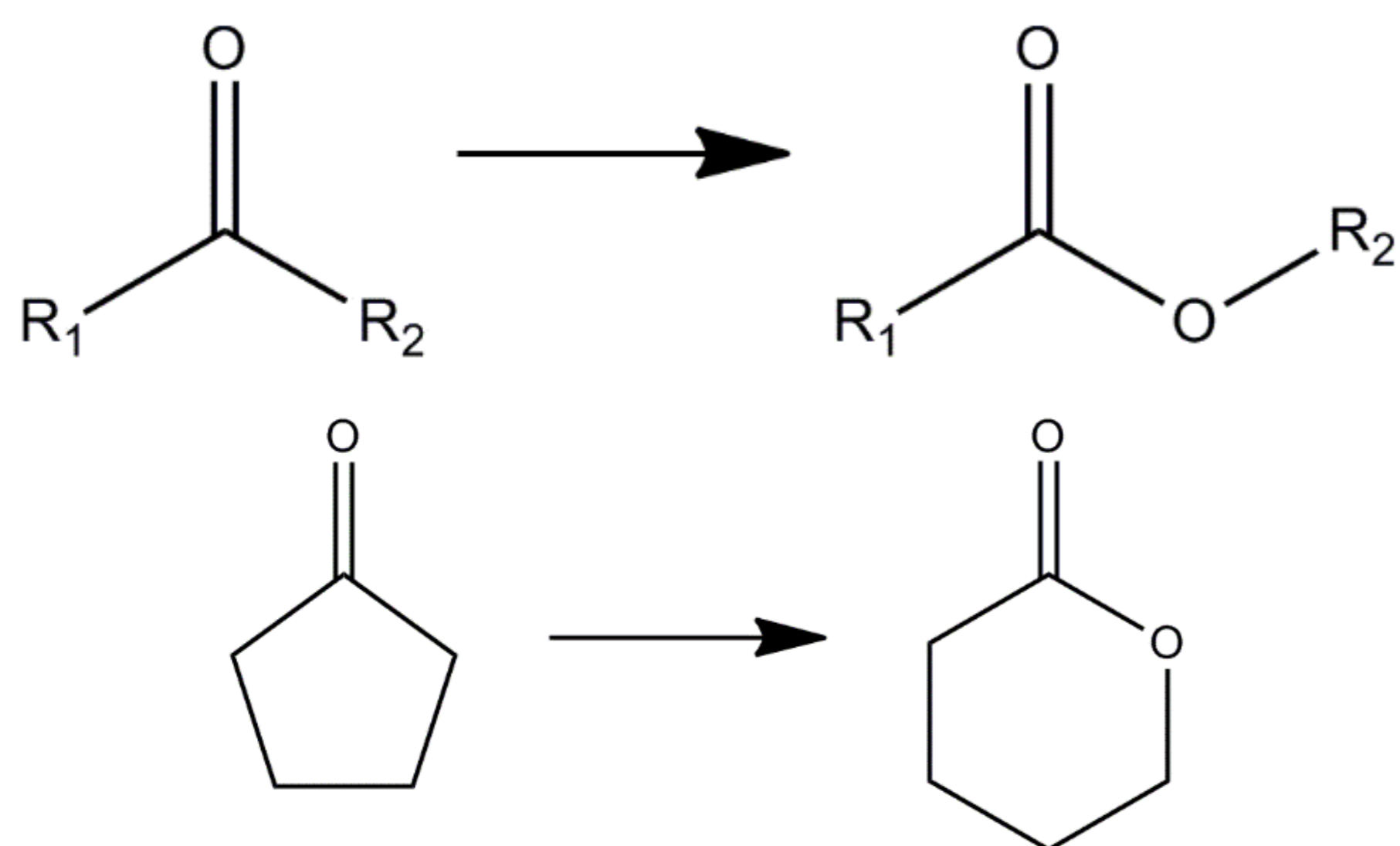


Applications

Selective oxidation of ketones to esters or lactones.

Substrate range



Kit description

The kit contains 12 diverse pre-formulated Baeyer Villiger Monooxygenase (BVMO) catalysts as lyophilised powders, as well as pre-prepared Tris Buffer, NADP⁺ cofactor, glucose and glucose dehydrogenase (GDH) for the cofactor recycling system.

BVMOs contained in this kit

BVMO-101	BVMO-109	BVMO-116
BVMO-102	BVMO-110	BVMO-118
BVMO-103	BVMO-112	BVMO-119
BVMO-105	BVMO-115	BVMO-123

Contents

BVMOs as lyophilised powder	12 Vials (50 mg)
NADP ⁺	1 Vial (100 mg)
GDH	1 Vial (130 mg)
Glucose	1 Vial (100 mg)
20 mM Tris Buffer, pH 8.0	1 Bottle (120 mL)

Screening Procedure

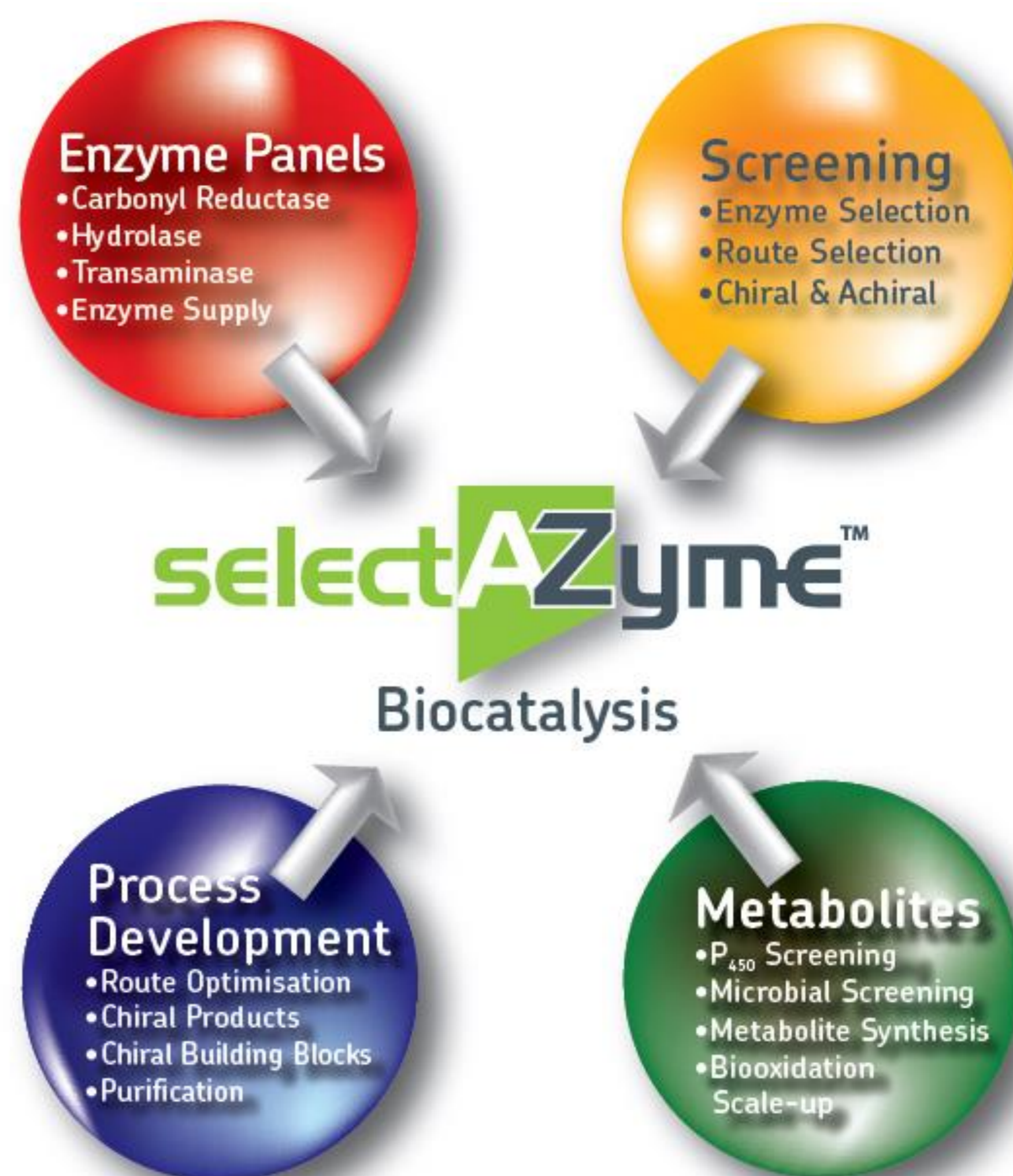
- Make up the following stock solutions in using the reagents and buffer provided.
 - 12 mg/mL solution of BVMO in buffer.
 - 30 mg/mL solution of glucose in buffer.
 - 15 mg/mL solution of NADP in buffer.
 - 20 mg/mL solution of GDH in buffer.
- Into a vial add reagent A (700 μ L), reagent B (100 μ L), reagent C (100 μ L) and reagent D (100 μ L).
- Add a solution of 0.05 - 0.5 mg substrate in organic solvent (10-20 μ L, depending on solubility) such as DMSO, EtOH, ACN.
- Shake/stir at room temperature (or ideally 30 $^{\circ}$ C). Agitate overnight.
- Add a water miscible organic solvent (1 mL) such as ACN or MeOH.
- Analyse sample by HPLC/LCMS to determine conversion.

*It is recommended to make the reaction mix solution fresh and use immediately. Avoid storage of the reaction mix as a solution, as this will degrade over time. An adequate supply of NADP, GDH, glucose and buffer has been provided for 3 screens with each enzyme. Additional GDH, buffer, glucose or NADP can be purchased from Almac if required

Storage: Recommend refrigeration at 4 $^{\circ}$ C to preserve enzyme activity.

selectAZyme Offerings

- An ever-expanding biocatalysis team including molecular and microbiologists, enzymologists, bioinformaticians, organic chemists and analysts, all equipped with state-of-the art facilities.
- Expertise in gene identification, expression, fermentation and enzyme production, followed by the efficient use of enzymes to produce complex chiral APIs.
- Enzyme evolution based on computational re-design, semi-rational and random mutagenesis approaches, allowing access to bespoke biocatalysts with enhanced activity, selectivity and process robustness.
- Fully integrated biocatalyst development through screening, (chemo-) enzymatic route definition, process development and scale up (pilot plant facilities available).
- Rapid implementation of enzymatic steps in complex, multi-stage syntheses, leading to significant improvements in production yields and timelines.
- A simple business model that avoids IP issues.

**The selectAZyme Range of Enzyme Screening Kits**

Our selectAZyme kits include a detailed user guide and come with all buffers, cofactors, recycling systems and reagents necessary to perform screens using standard laboratory equipment.

Carbonyl Reductase (CRED) biocatalysts

96 CRED biocatalysts for the production of chiral alcohols and/or use in cofactor recycling schemes

Aldehyde Reductase (ARED) biocatalysts

16 ARED biocatalysts

Hydrolase biocatalysts

48 commercially available hydrolases for selective acylation of alcohols and amines.

Nitrilase and Nitrile Hydratase (NHase) biocatalysts

9 NHases and 15 nitrilases

Transaminase (TAm) biocatalysts

96 TAm for the production of chiral amines from pro-chiral ketones.

Ene Reductase (ERED) biocatalysts

143 ERED biocatalysts for asymmetric reduction of activated alkenes

P450 Monooxygenase biocatalysts

96 P450 monooxygenase biocatalysts for a huge range of highly selective oxidations

Want Almac to do the screening for you?

- Our experienced biocatalysis team can screen all of our enzymes against your target substrate(s) and simply provide the results.
- Flexible options for subsequent enzyme supply, evolution services, process development and scale up as required.

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