

# **New technology for large preparation of bioactive polyphenols from by-products of food-industries**

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# Plant Polyphenols

*Monomers and oligomers  
(Bioactive compounds)*

**Polymer polyphenols: 70-90%**  
(Non-nutritive, low bioavailability)

Flavonols

Resveratrol

Phenolic  
acids

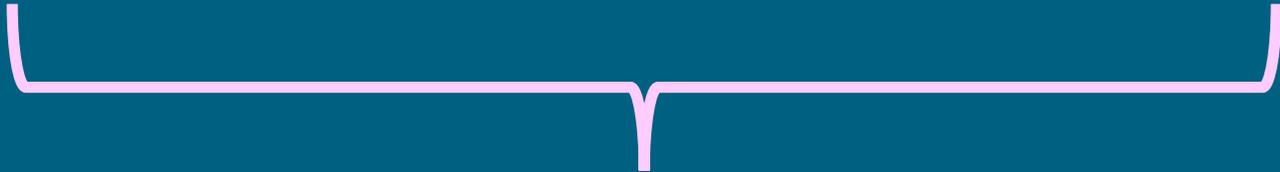
Anthocy.

**OPCs**

**Health-beneficial effects**



*The most powerful antioxidants known  
50 times > Vit E, 20 times > vit C*



Very expensive!!!

Development of efficient methods for separation of bioactive polyphenols



Challenging task for scientists

# Two achievements obtained in our Lab.

Useless and abundant  
polymeric polyphenols

hydrolysis ↓ transformation

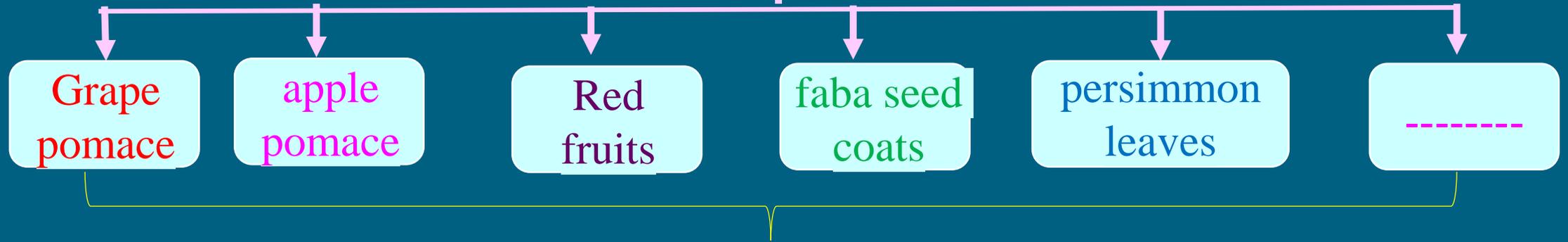
small molecular  
bioactive polyphenols

High-Speed Countercurrent Chromatography  
HSCCC

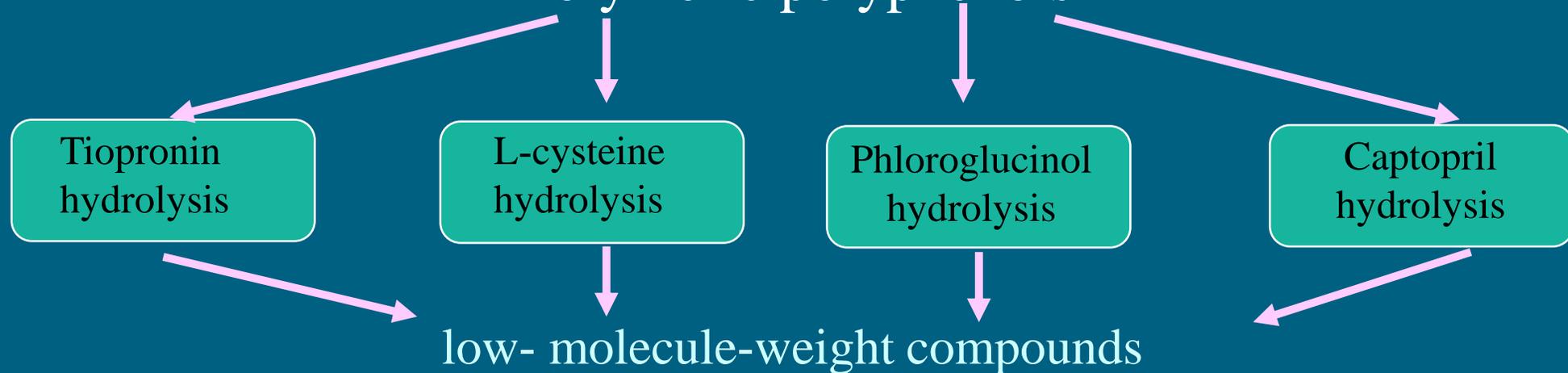
separations of bioactive  
compounds  
in large scale

Various individual bioactive  
polyphenol products

# Major sources of polyphenols



## Polymeric polyphenols



**HSCCC isolation, purification**

Yields of bioactive polyphenols: 4-5 times higher than the traditional methods