Almond Metabolomics Analysis for Philosopher Foods

by Utah State University

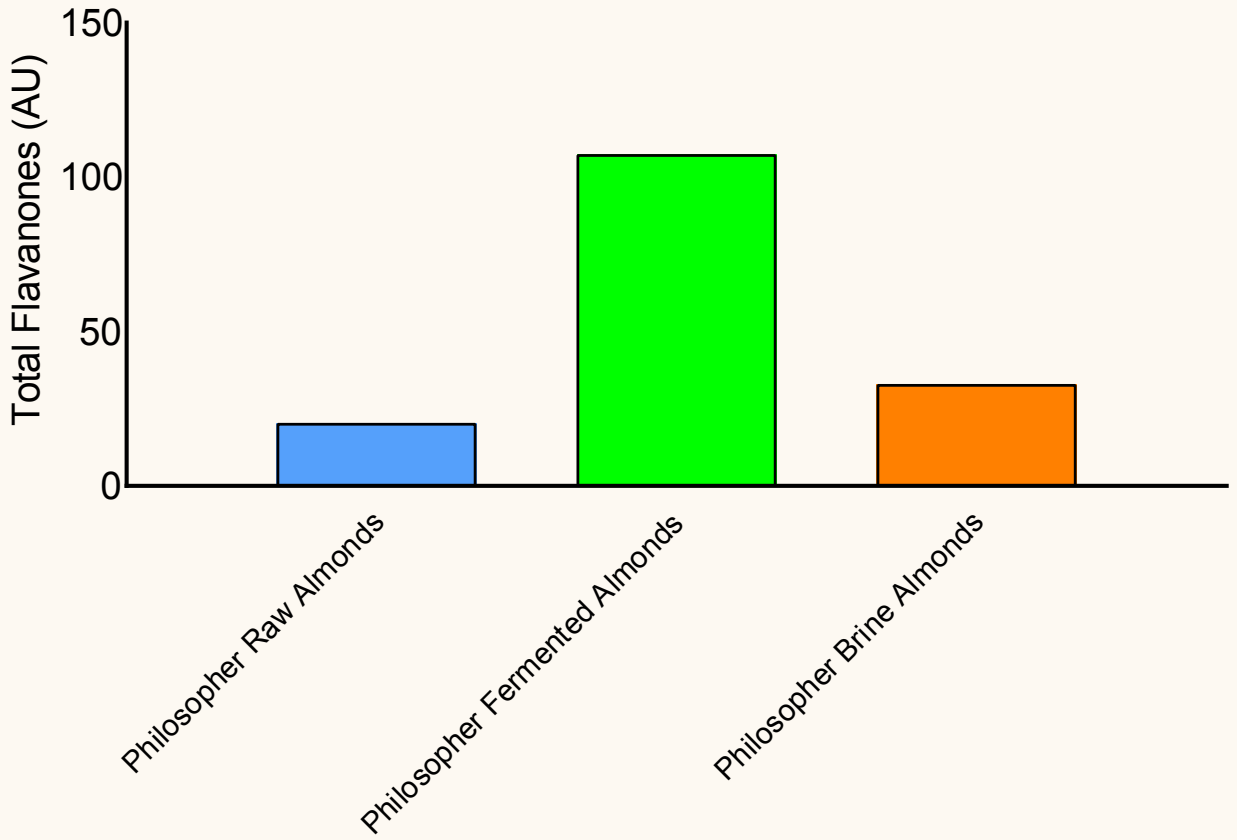
Differences between raw almonds, fermented almonds, and fermented almond brine

We ran a metabolomic analysis of raw organic almonds, Gut Nuts fermented almonds, and the Gut Nuts fermented almond brine used to ferment the almonds.

Equipment used: Sciex 7500 QTRAP Triple Quad LC/MS-MS. This is one of the newest and most sensitive mass-specs on the market right now.

Total Flavanoids

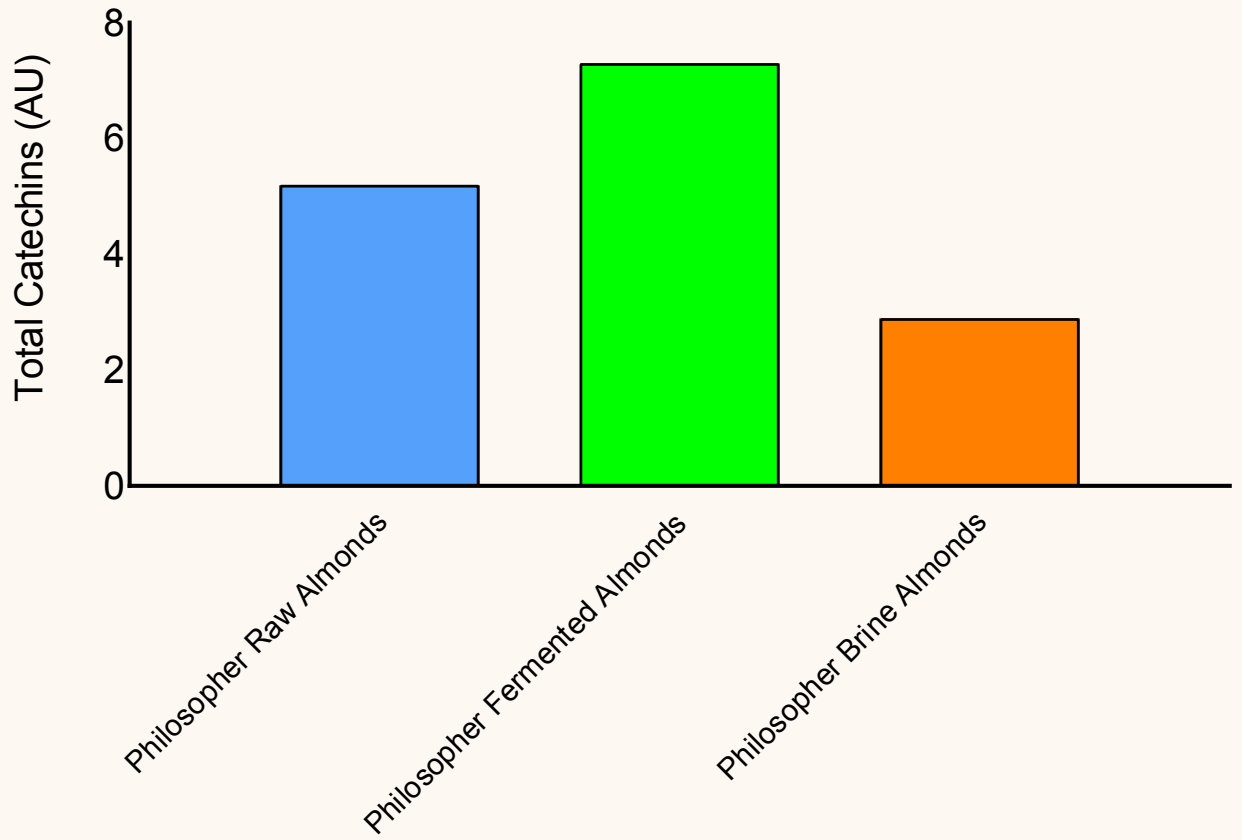
Description: Flavonoids are a class of polyphenolic secondary metabolites found in plants, and thus commonly consumed in the diets of humans. These compounds are believed to have anti-oxidant and anti-inflammatory effects and intakes are associated with a potential decreased risk of chronic disease



*Philosopher Brine Almonds = the brine leftover after fermentation, strained from fermented almonds

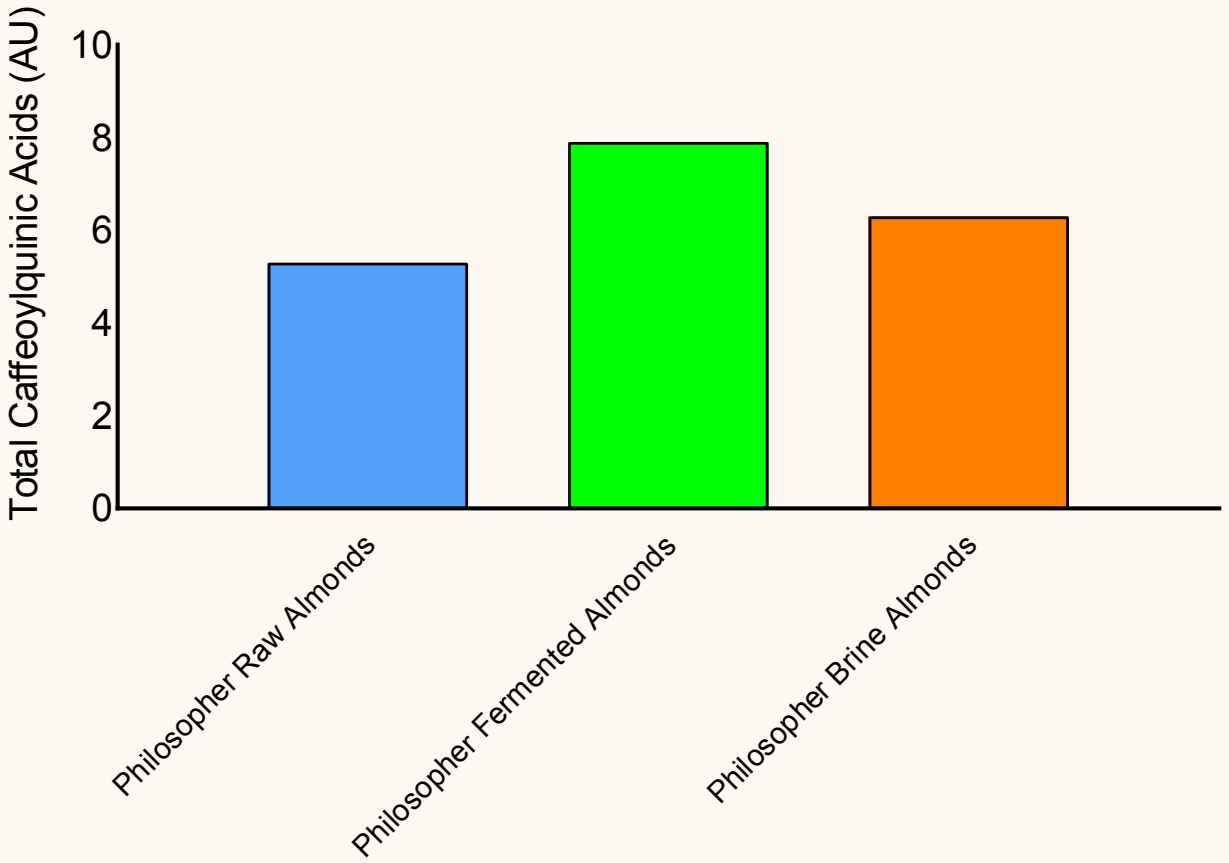
Total Catechins

Description: Catechins are a type of secondary metabolite providing antioxidant roles. Catechin and epicatechins are the most common forms. These compounds have been studied for their effects on blood flo regulation, especially as it relates to their intakes from green tea.



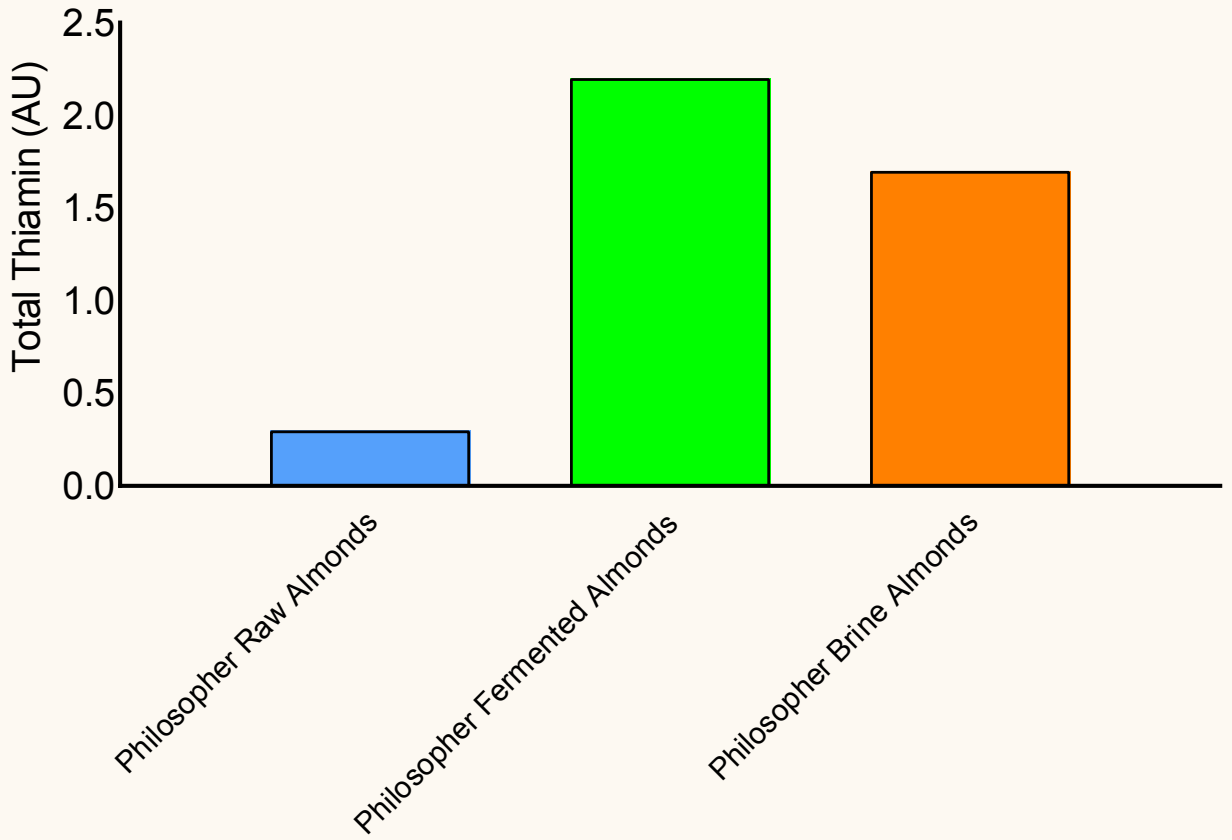
Total Caffeoylquinic Acids

Description: Caffeoylquinic acids (CQAs) are specialized plant metabolites. CQAs are considered beneficial fc
human health, mainly due to their potential anti-inflammatory and antioxidant properties.



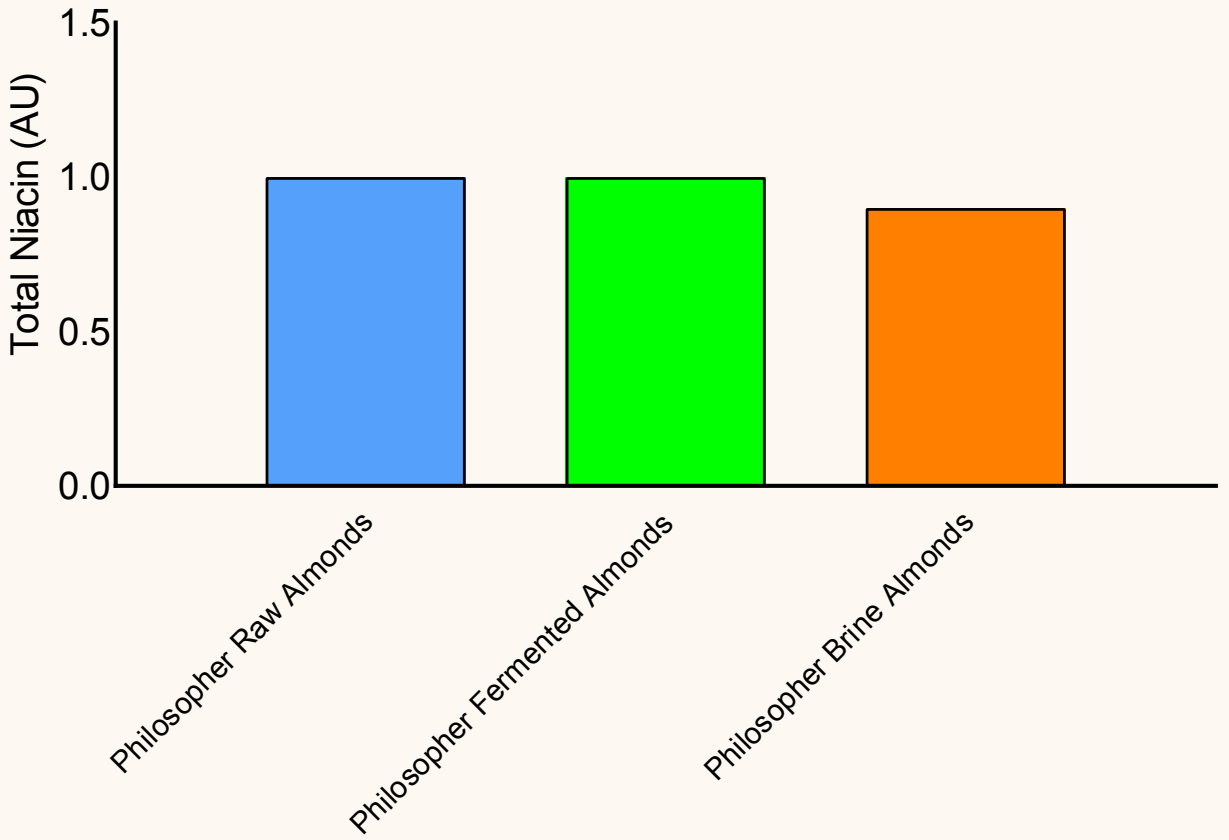
Vitamin B1

Description: This vitamin plays a critical role in energy metabolism and the growth, development, and function of cells. Helps prevent complications in the nervous system, brain, muscles, heart, stomach, and intestines.



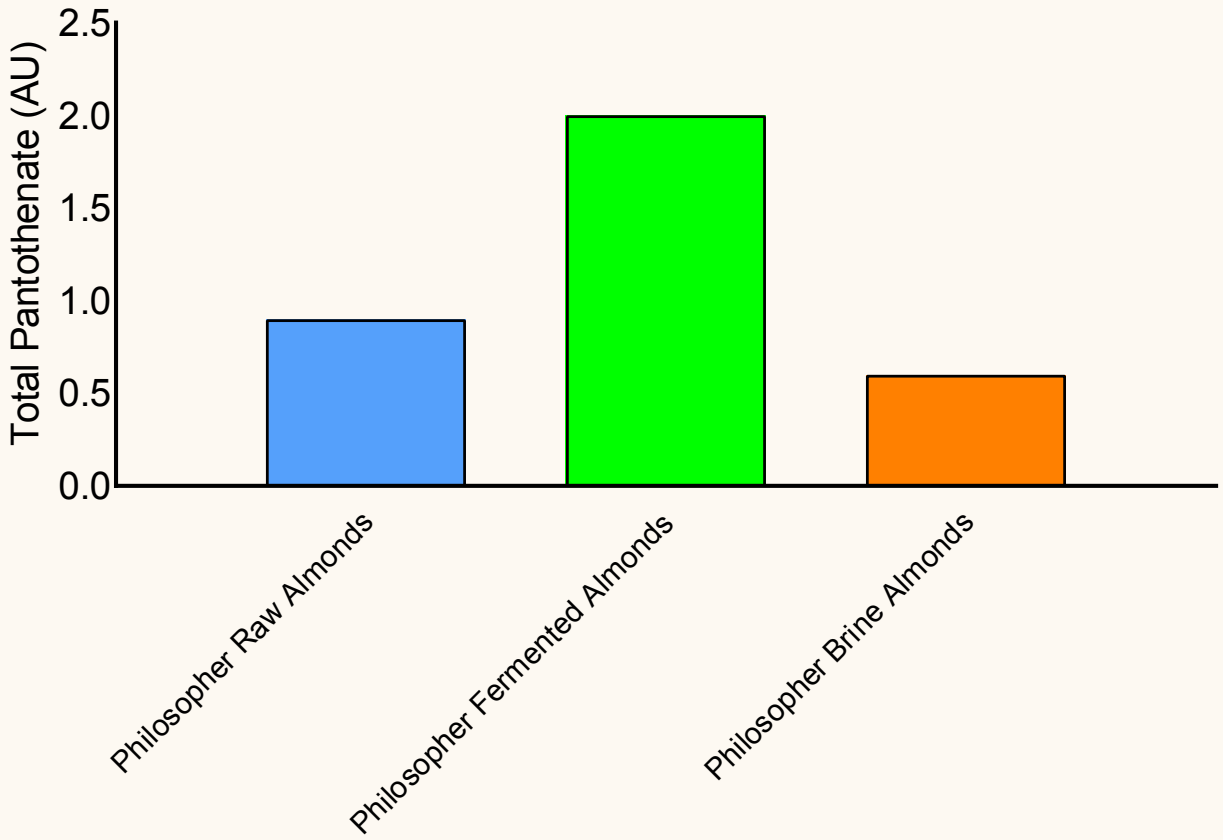
Vitamin B3

Description: This vitamin plays a critical role in energy metabolism, particularly lipid and cholesterol metabolism.



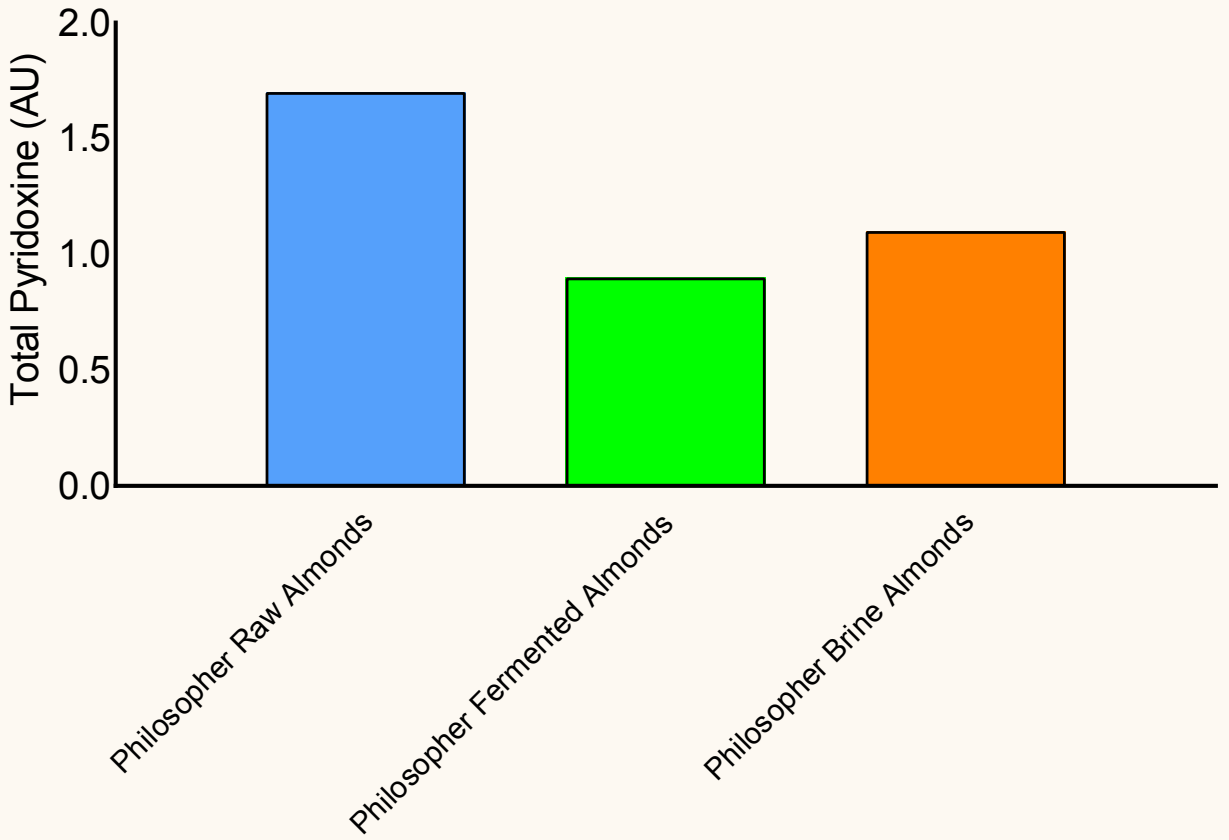
Vitamin B5

Description: Essential nutrient and anti-oxidant. Acts as co-factor for hormone production and red blooc cells, and plays a role in glucose and lipid metabolism.



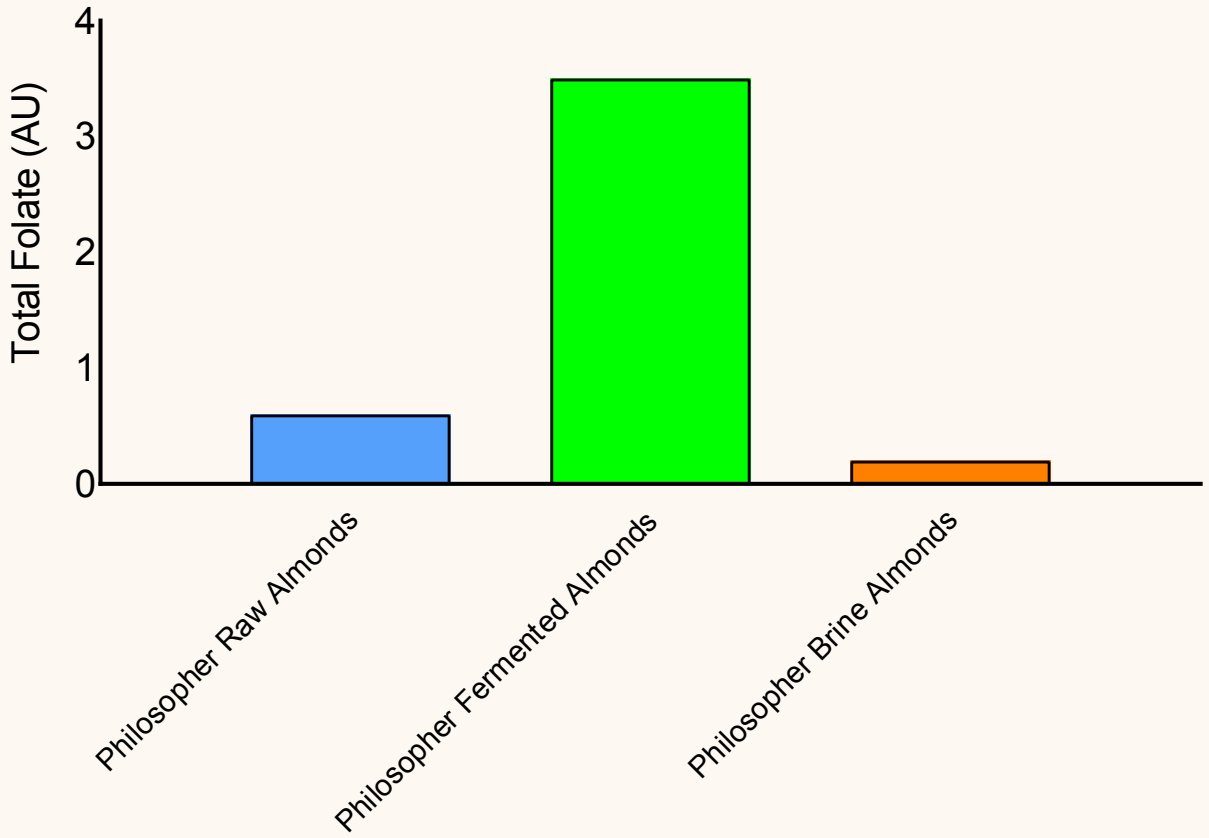
Vitamin B6

Description: Essential nutrient and potent anti-oxidant. B6 is a cofactor for enzymes involved in glucose metabolism, synthesis of neurotransmitters, heme, vitamin B3 and RNA/DNA.



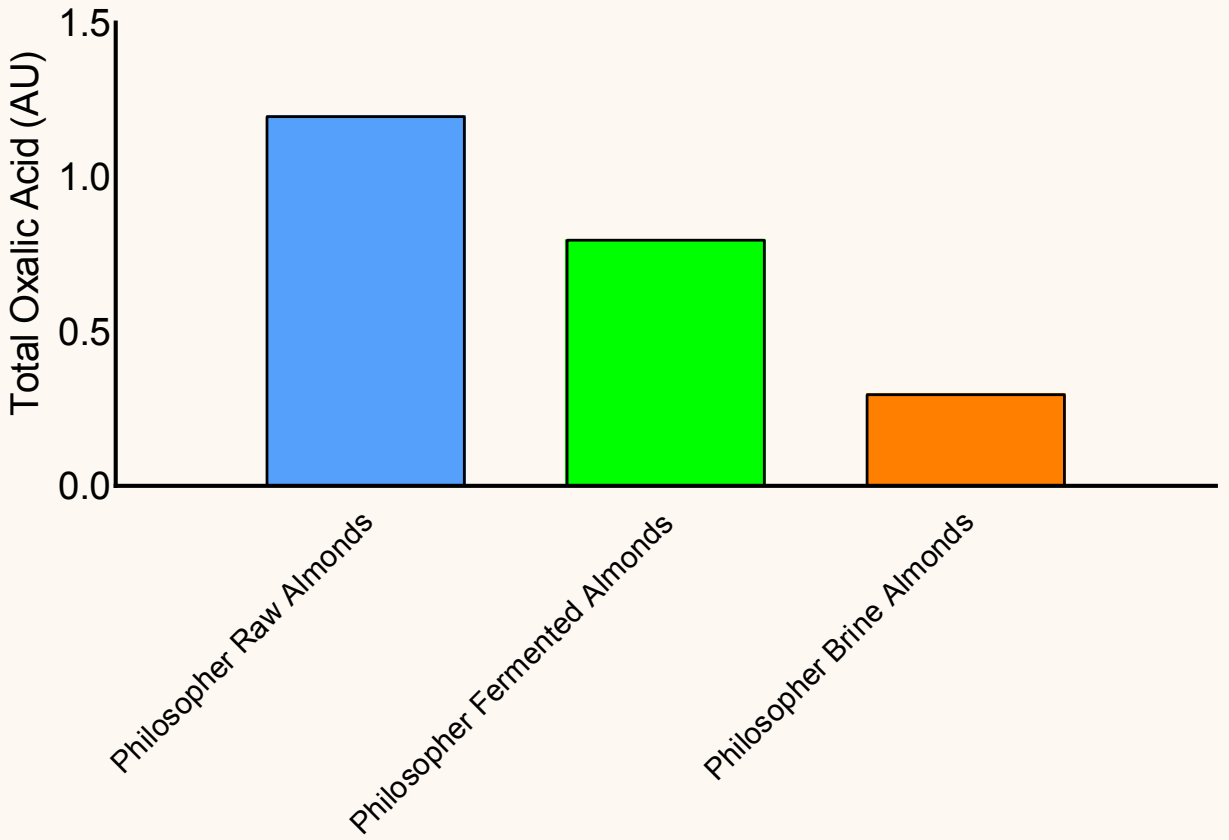
Vitamin B9

Description: Folate (vitamin B-9) is important in red blood cell formation and for healthy cell growth and function. The nutrient is crucial during early pregnancy to reduce the risk of birth defects of the brain and spine.



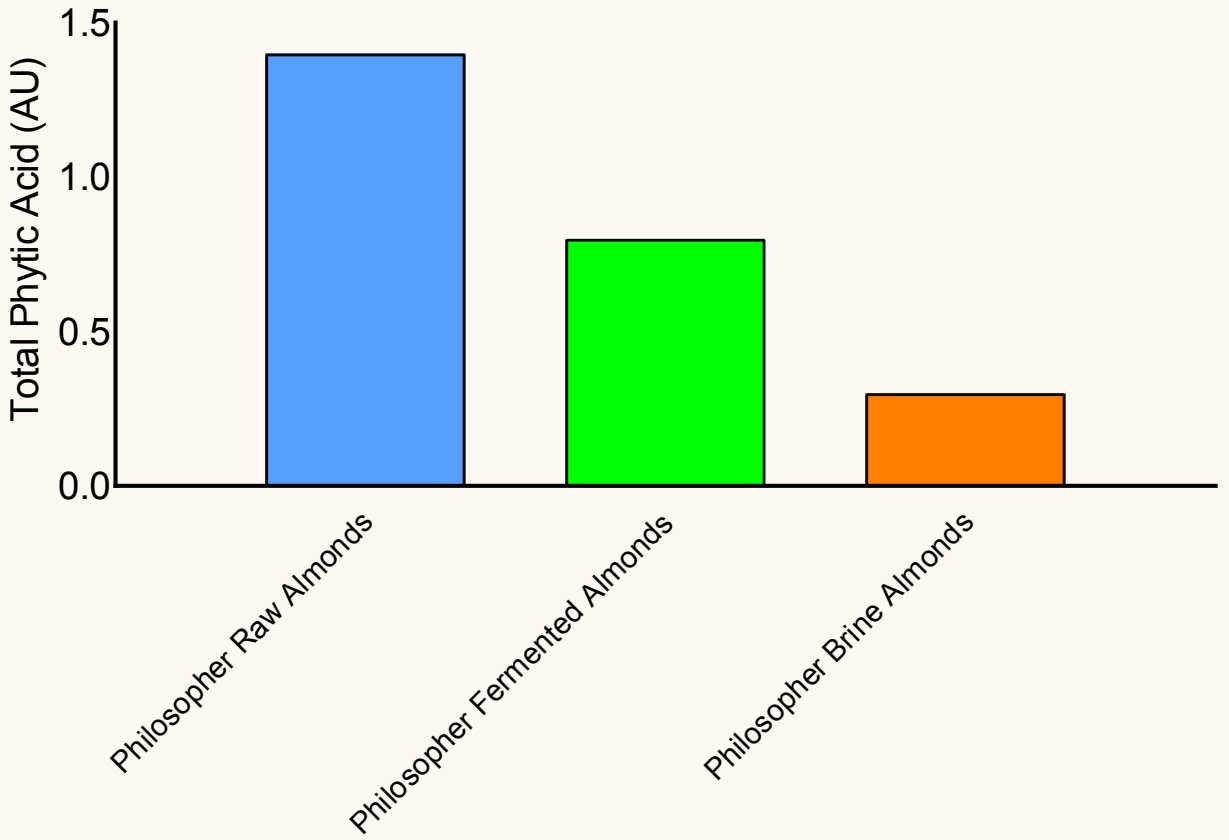
Oxalic Acid

Description: Oxalate is a naturally occurring molecule found in abundance in plants and humans. We eat them in food and our bodies make them as well. Oxalates bind to calcium as they leave the body



Phytic Acid

Description: Phytic acid is the major storage form of phosphorous in cereals, legumes, oil seedsn and nuts. Phytic acid is known as a food inhibitor which chelates micronutrients and reduce their bioavailability.



Total Syringic Acid

Description: Syringic acid is a naturally occurring phenolic compound and dimethoxybenzene that is commonly found as a plant metabolite. Syringic acid is studied for anti-obesity, anti-inflammatory and anti-steatotic effect via the regulation of lipid metabolic and inflammatory genes.