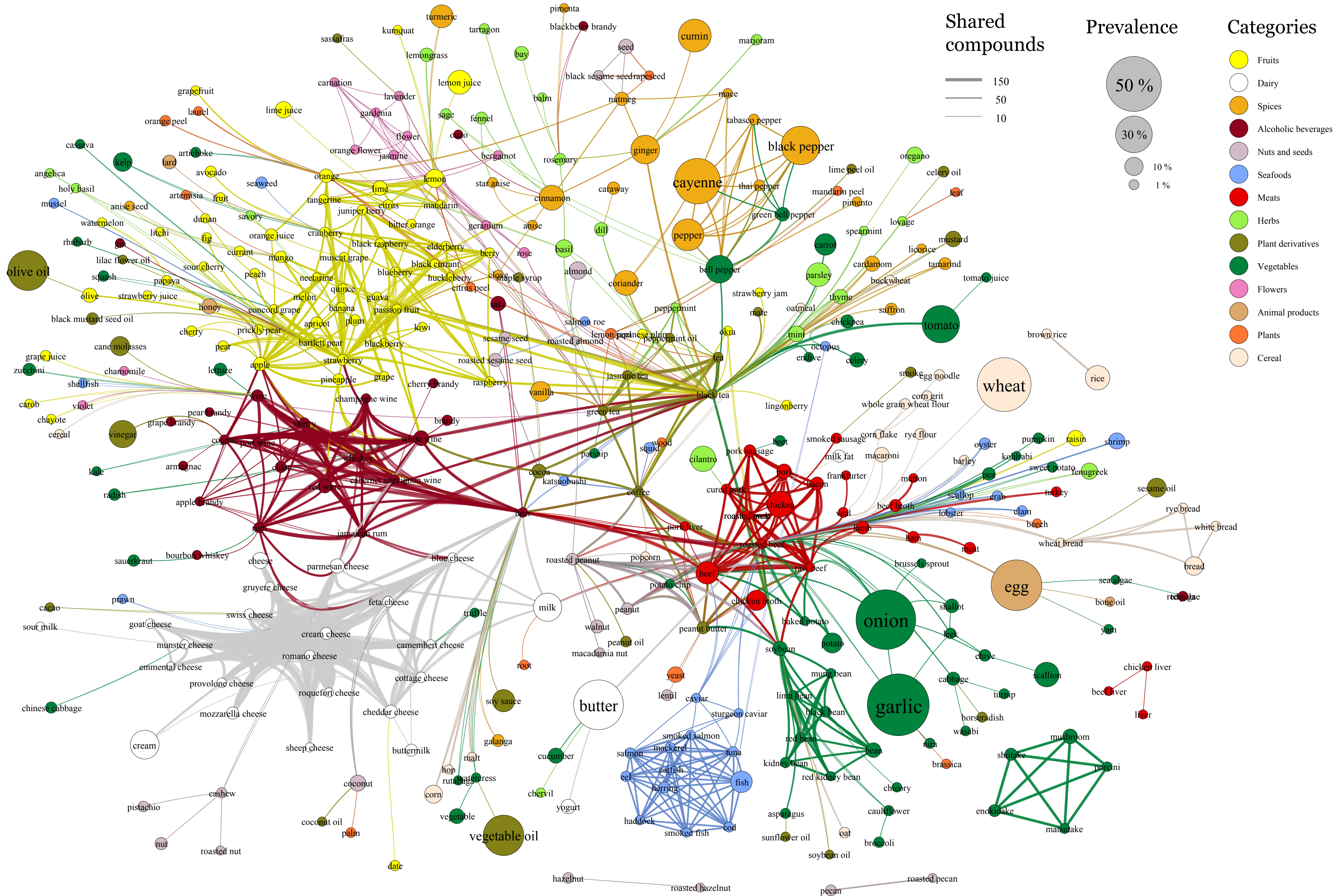


Flavor Network

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“Flavor network and the principles of food pairing”, *Scientific Reports* **1**, 196 (2011)



Flavor network. Culinary ingredients (circles) and their chemical relationship are illustrated. The color of each ingredient represents the food category that the ingredient belongs to, and the size of an ingredient is proportional to the usage frequency (collected from online recipe databases: epicurious.com, allrecipes.com, menupan.com). Two culinary ingredients are connected if they share many flavor compounds. We extracted the list of flavor compounds in each ingredient from the book “Fenaroli’s handbook of flavor ingredients (5th ed.)” and then applied a backbone extraction method by Serrano et al. (*PNAS* **106**, 6483) to pick statistically significant links between ingredients. The thickness of an edge represents the number of shared flavor compounds. To reduce clutter, edges are bundled based on the algorithm by Danny Holten (<http://www.win.tue.nl/~dholten/>).