

Extracting flavour using supercritical carbon dioxide

No.	Answer
1	At this point, solid, liquid and gas all coexist.
2	a Gas changes to solid, with no liquid phase. b Gas changes to liquid, then to solid. c There is no change until solidification occurs at a very high pressure. d The gas changes directly to a solid at -78°C .
3	Molecules with the same molecular formula, but different structures.
4	Water, a polar solvent, does not readily dissolve large organic molecules that are essentially non-polar.
5	These solvents will dissolve organic compounds more readily (than water), however, some organic residues may remain in the extracted components (some organic solvents are also now known to be carcinogenic).
6	Answers could include: non-toxic, inexpensive, less residue in the extracted products and can be recycled.
7	High pressures are required (can be expensive), and carbon dioxide is a greenhouse gas.
8	Decreasing the pressure will decrease the dissolving power of the carbon dioxide. The hops flavours will precipitate. The gaseous carbon dioxide is then easily removed.
9	Research—various answers are possible.