

Lecture General Chemistry Winter Term 2023/24

Dr. Lars Birlenbach

Physikalische Chemie 1 (PC1)

AR-F0102

Tel.: 0271 740 2817

eMail: birlenbach@chemie.uni-siegen.de

- Website (Slides, Exercises):
- <http://www.chemie.uni-siegen.de/pc/lehre/nanoscitec/>

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Lars Birlenbach

birlenbach@chemie.uni-siegen.de

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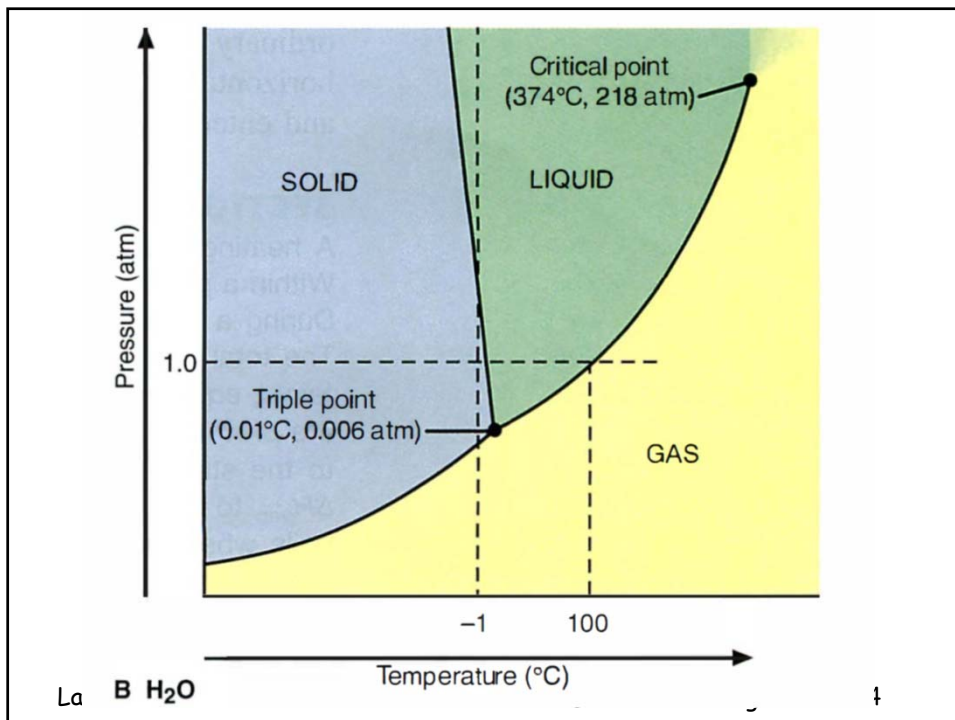
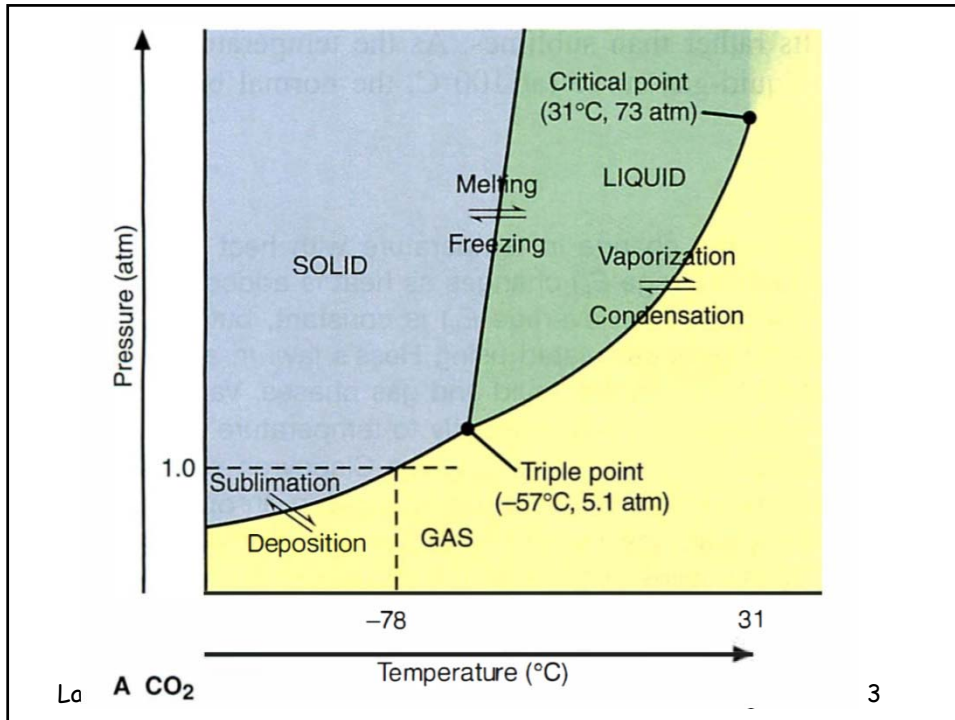
Properties of pure liquids and solutions

- Phase diagrams
- Liquid Crystals
- Vapour pressure of pure liquids
- Solubility of solids
- Solubility of gases
- Vapour pressure of solutions
- Distillation
- Elevation of boiling point
- Freezing point depression
- Stability of phases

Lars Birlenbach

birlenbach@chemie.uni-siegen.de

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Tab. 17.5.1 triple points and critical points of some substances

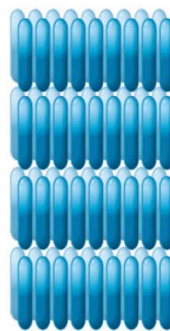
substance	triple point		critical point	
	T_t/K	p_t/bar	T_c/K	p_c/bar
He	-	-	5,3	2,26
Ne	24,563	0,4339	44,4	26,54
H ₂	13,958	0,07193	33,24	12,96
N ₂	63,146	0,12526	126,20	34,00
O ₂	54,361	0,00147	154,576	50,43
H ₂ O	273,16	0,006	647,25	218,3
CO ₂	216,579	5,185	304,25	73,825
CH ₄	90,685	0,117	190,555	45,95

Lars Birlenbach

birlenbach@chemie.uni-siegen.de

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There is more than solid, liquid, gas: Liquid Crystals

Nematic
phaseSmectic
phaseCholesteric
phase

Increasing opacity

Lars Birlenbach

birlenbach@chemie.uni-siegen.de

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