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from ase.eos import EquationOfState
from ase.build import bulk
from gpaw import GPAW

al = bulk('Al', 'fcc', a=4.0)
calc = GPAW(mode='pw', kpts=(4, 4, 4))
al.calc = calc
cell = al.get_cell()

v = []
e = []
for x in [0.9, 0.95, 1.0, 1.05, 1.1]:
    al.set_cell(x * cell)
    v.append(al.get_volume())
    e.append(al.get_potential_energy())

eos = EquationOfState(v, e)
v0, e0, B = eos.fit()
eos.plot('eos_Al.pdf')
```