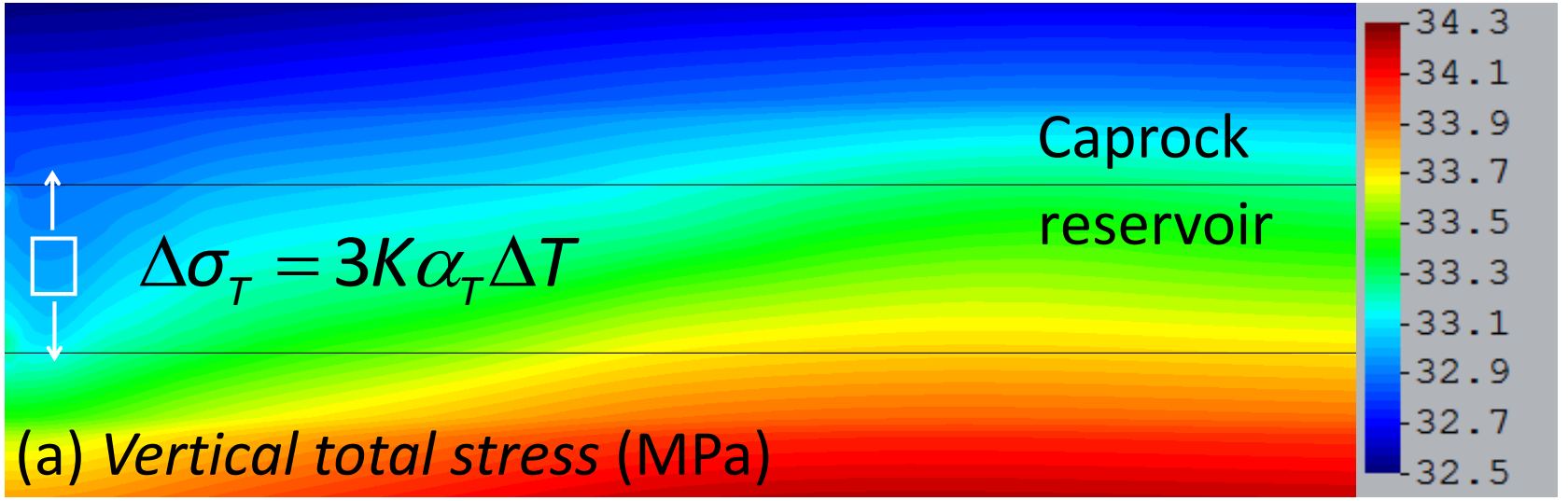
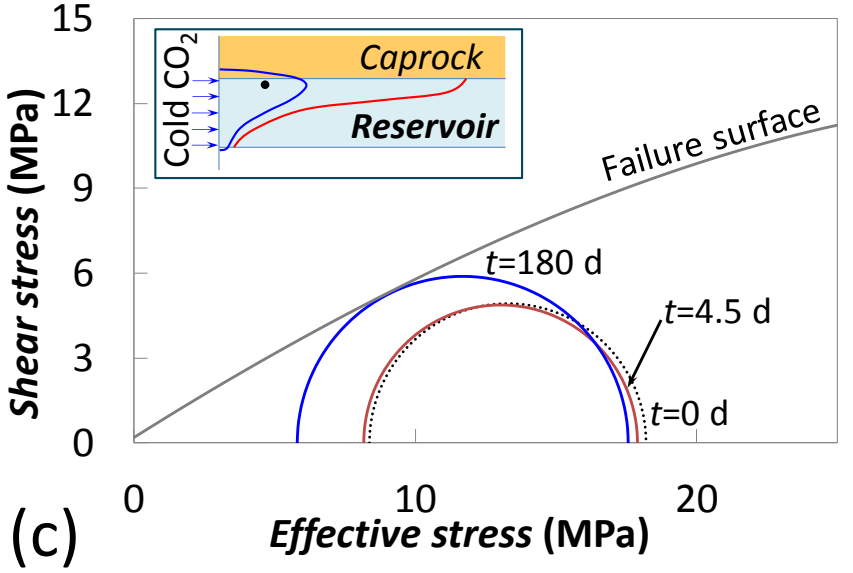
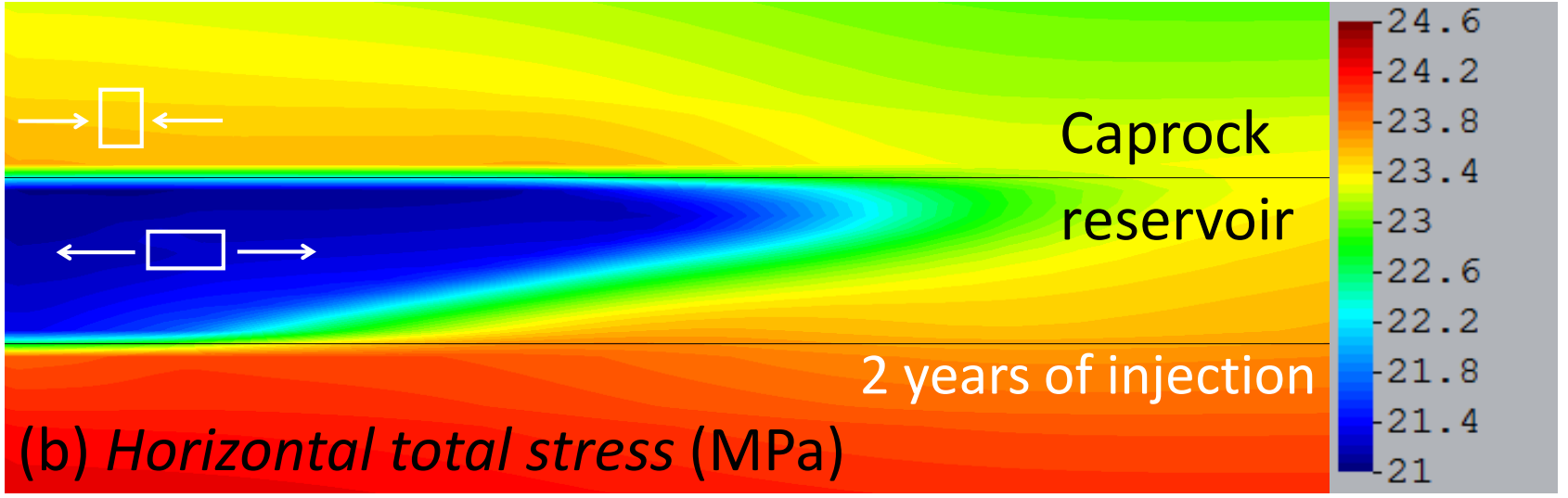
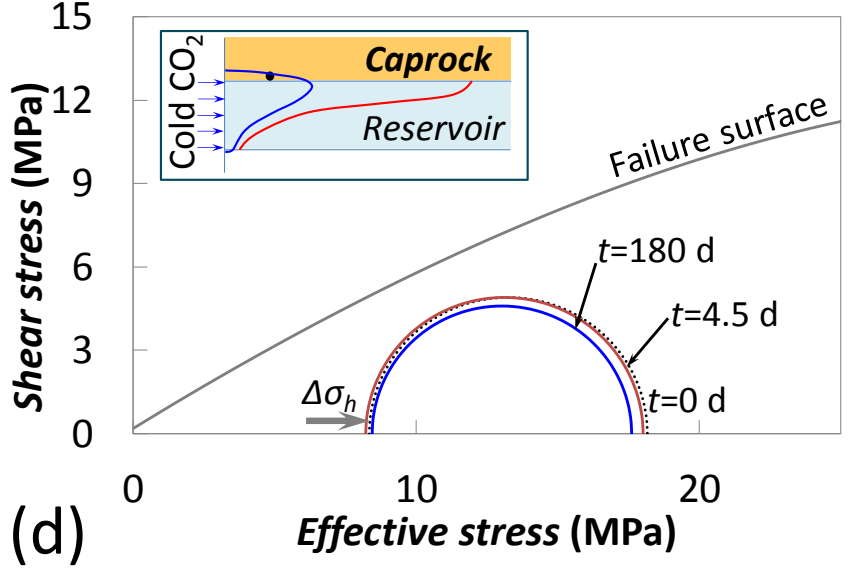

Caprock
reservoir
$\Delta\sigma_T = 3K\alpha_T\Delta T$
34.3
34.1
33.9
33.7
33.5
33.3
33.1
32.9
32.7
32.5
(a) Vertical total stress (MPa)


Cold CO_2
Caprock
Reservoir
Failure surface
t=180 d
t=4.5 d
t=0 d
Shear stress (MPa)
Effective stress (MPa)
0
3
6
9
12
15
0
10
20
(c)


Caprock
reservoir
2 years of injection
24.6
24.2
23.8
23.4
23
22.6
22.2
21.8
21.4
21
(b) Horizontal total stress (MPa)


Cold CO_2
Caprock
Reservoir
Failure surface
t=180 d
t=4.5 d
t=0 d
$\Delta\sigma_h$
Shear stress (MPa)
Effective stress (MPa)
0
3
6
9
12
15
0
10
20
(d)