

Supporting Information for

## **Cooling-induced reactivation of distant faults during long-term geothermal energy production in hot sedimentary aquifers**

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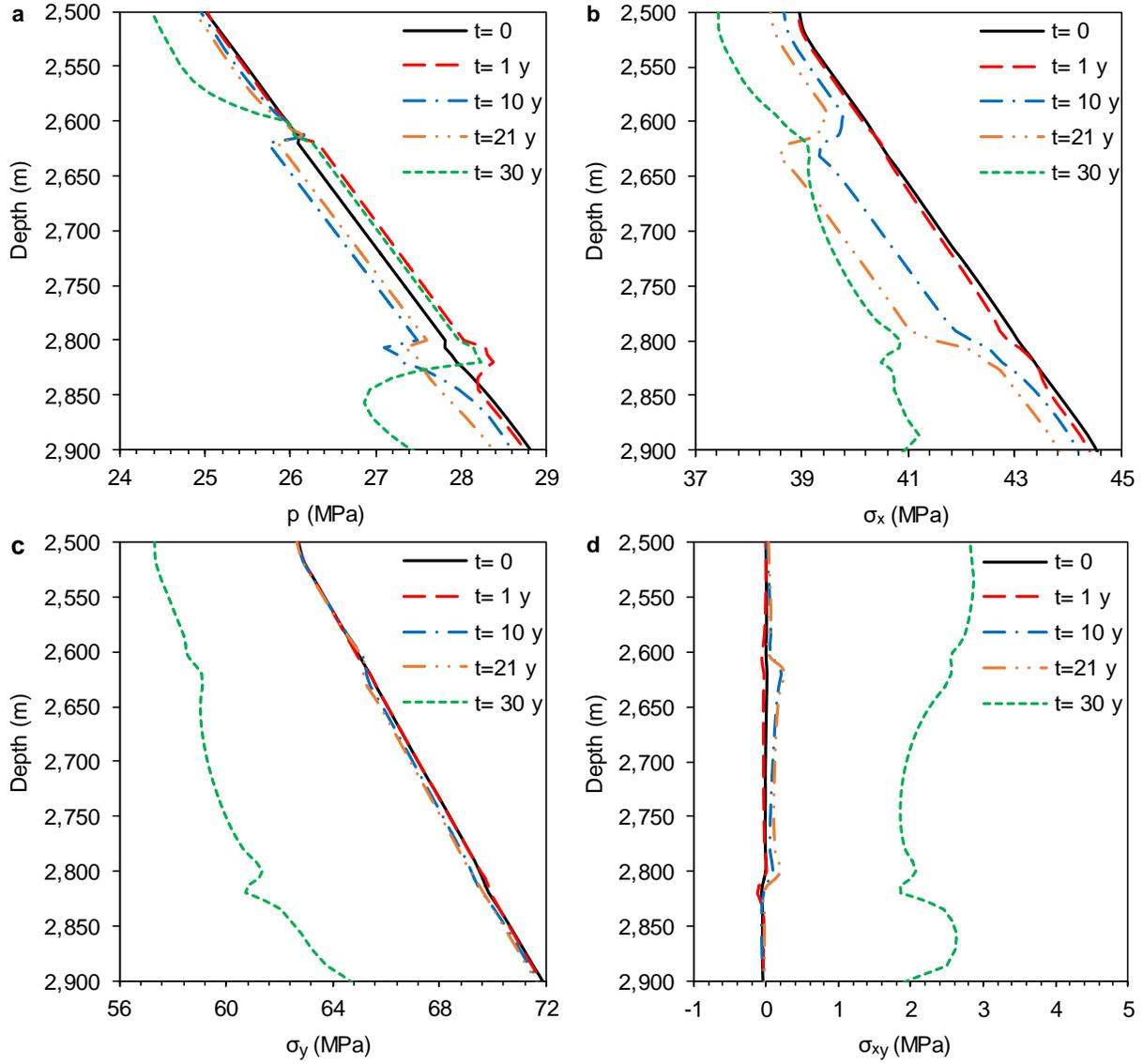
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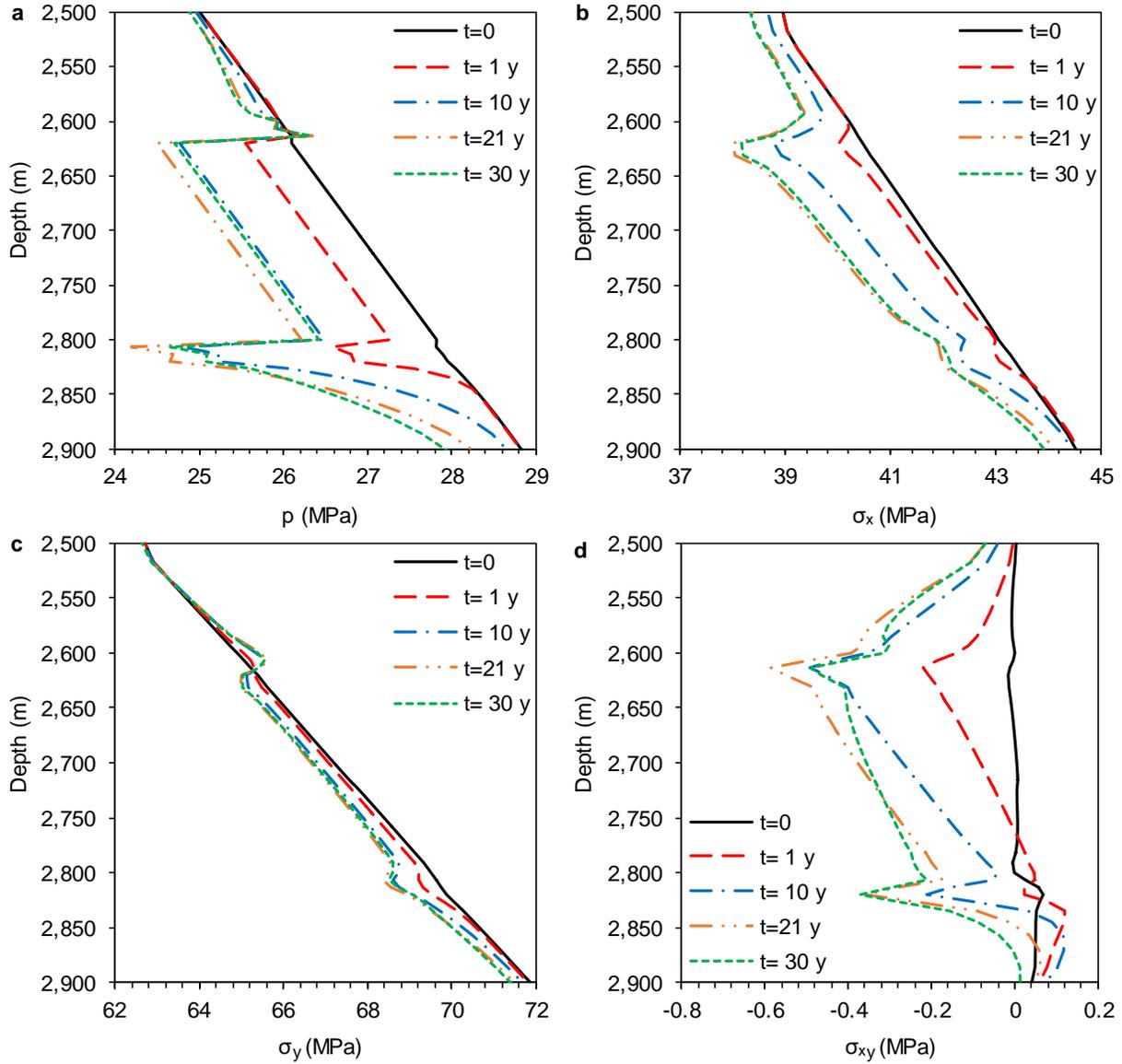
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### **Introduction**

We present in the Supporting Information the evolution of the pore pressure and stress components along faults 1 (Fig. S1) and 2 (Fig. S2), for the case in which both faults have a low permeability.



**Figure S1.** Pore pressure and stress evolution in fault 1. Evolution of the pore pressure (a), horizontal stress (b), vertical stress (c) and shear stress (d) along fault 1 at different times during cold water reinjection.



**Figure S2.** Pore pressure and stress evolution in fault 2. Evolution of the pore pressure (a), horizontal stress (b), vertical stress (c) and shear stress (d) along fault 2 at different times during cold water reinjection.