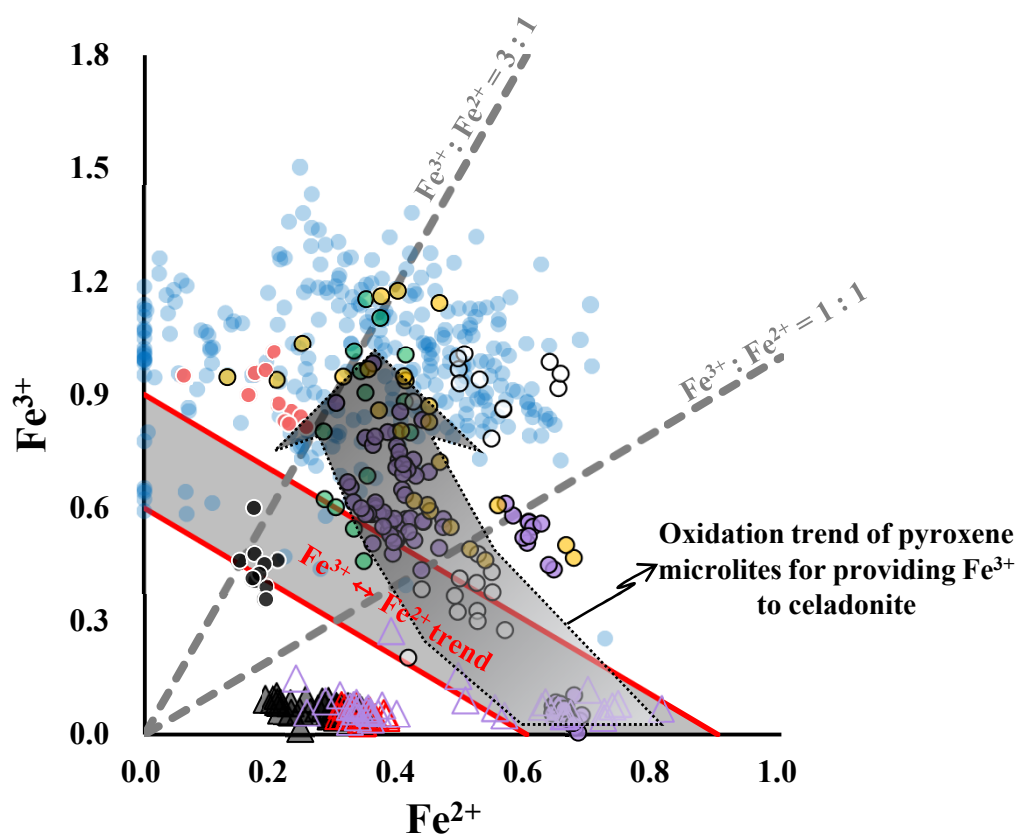


# Electronic Supplementary Material 5. The Fe<sup>3+</sup> versus Fe<sup>2+</sup> variation of celadonites and pyroxenes



## Celadonites

- **Fault-injected magmatic water alteration**  
 South Korea (This study)
- **Seawater alteration**

801C	Alt and Teagle (2003); Talbi and Honnorez (2003)
1149D	Talbi and Honnorez (2003)
1256D	Alt et al. (2010); Laverne et al. (2006)
EXCO	Schramm et al. (2005)
Leg 168	Marescotti et al. (2000); Porter et al. (2000)
Mururoa, France	Dudoignon et al. (1989)
Troodos, Cyprus	Gallahan and Duncan (1994)
- **Groundwater alteration**

Grande Ronde Basalt, U.S.A.	Baker et al. (2012)
Kerguelen Archipelago, France	Renac et al. (2010)
Parana Basin, Brazil	Innocent et al. (1997)
- **Deuteric alteration**  
 Parana Basin, Brazil      Schenato et al. (2003)
- **Microbial activity**  
 Betic Cordillera, Spain      Reolid and Abad (2014)
- ?  
 Hatag Basin, Romania      Barzoi and Seclaman (2010)
- ?  
 Hokonui Hills, New Zealand      Li et al. (1997)

## Pyroxenes

- ▲ Pyroxene phenocrysts in fresh trachytic basalt
- ▲ Pyroxene phenocrysts in altered trachytic basalt fragments
- ▲ Pyroxene microlites in fresh trachytic basalt