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- 1971 The Special Issue of Geomicrobiology in 2022  
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- 1986 Diversity of arsenic-oxidizing prokaryotes containing *arxA* gene in Yunnan-Tibet hot springs and the influencing factors  
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- 2001 Diversity and distribution of microorganisms in the sediment of Formosa cold seep in South China Sea  
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- 2021 Prokaryotic community composition in Makran cold seep sediments and the response to environment  
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