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四川盆地西南部储层有机包裹体组成和碳同位素特征及其对油气来源的指示 [点此下载全文](#)

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摘要:

本文对四川盆地西南部气区震旦系灯影组和二叠系茅口组、长兴组碳酸盐岩储层的有机包裹体特征、组成、碳同位素进行了研究, 追索了研究区油气的演化、运移及油气的成因。结果表明, 在震旦系灯影组和二叠系茅口组、长兴组储层中, 皆存在有三期以上的油气运移。不同储层中, 相应各期的油气运聚特点及演化程度略有不同, 灯影组中各期有机质的成熟度及油气演化程度均略高于二叠系; 同储层中, 各期油气运聚的特点及演化程度存在明显的差异, 可划分为三个阶段: 石油成熟阶段、高成熟凝析油—湿气阶段、过成熟干气阶段。研究区灯影组储层的天然气成因为油型气, 二叠系的为多成因; 各储层中的CO₂主要为有机成因气, 少量为无机成因气。

关键词: [四川盆地](#) [西南部](#) [同位素特征](#) [油气来源](#) [体组成](#) [碳酸盐岩储层](#) [演化程度](#) [油气运聚](#) [包裹体特征](#) [天然气成因](#) [有机成因气](#) [无机成因气](#) [二叠系](#) [灯影组](#) [碳同位素](#) [油气运移](#) [成熟阶段](#) [茅口组](#) [震旦系](#) [长兴组](#) [研究区](#) [成熟度](#) [有机质](#)

Component and Carbon Isotope Characteristics of Organic Inclusions in Reservoirs and Their Hydrocarbons as Tracers of Oil and Gas [Download Fulltext](#)

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Abstract:

Organic inclusions are primal fluid samples in oil and gas pool formation and can serve as an effective tool for studying the formation, evolutionary history, migration and accumulation of oil and gas. According to characteristics, homogenization temperatures, chemical and isotopic compositions of the organic inclusions in the Sinian Dengying Formation, and Permian Maokou and Changxing Formations, we analyze the stages of migration and accumulation, evolution and origin of oil and gas in the southwest Sichuan Basin. The results show that the oil and gas have three stages of migration and accumulation either in the Dengying Formation or the Maokou and Changxing Formations. The characteristics of migration, accumulation and evolutionary history of oil and gas in corresponding stages are slightly varied in different reservoirs and the maturity degree of organic matter and the degree of evolution of oil and gas in the Dengying reservoirs are slight higher than those in the Permian reservoirs. Such Characteristics are different obviously in different oil-gas migration and accumulation stages in the same reservoir. Natural gas in the Dengying reservoir is oil-generating in origin, but that in the Permian reservoirs is of multi-origin. The CO₂ is primarily of organic origin while secondarily of inorganic origin.

Keywords: [organic inclusion](#) [homogenization temperature](#) [chemical and isotopic composition](#) [migration and oil-gas accumulation](#) [origin of natural gas](#)

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