

辽河减压渣油中非卟啉镍的XAFS研究

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摘要 为获得石油中非卟啉Ni的结构信息,采用荧光法对辽河减压清油中非卟啉Ni的K边进行了XAFS测试非卟啉Ni第一配位壳层的结构和Ni-四苯基卟啉(NiTPP)的配位结构类似,也是4个氮原子,呈平面四方构型为0.192nm,在较高的配位壳层,二者存在一定的差别此外,根据XAFS测试,对石油中非卟啉Ni讨论.

关键词 [卟啉](#) [镍化合物](#) [渣油](#)

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Structural Characterization by XAFS Spectroscopy of Non-Porphyrin Nickel in Liaohe Vacuum Residue

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Abstract The local chemical structure of non-porphyrin Ni in Liaohe vacuum residue was investigated by X-ray absorption fine structure (XAFS) spectroscopy. Although the concentration of non-porphyrin Ni in the sample is very low, an available XAFS data was obtained by fluorescence mode. The X-ray absorption near edge structure (XANES) spectrum of the non-porphyrin Ni is similar to that in Ni (II) tetraphenylporphyrin, indicating the same Ni local structure. The extended X-ray absorption fine structure (EXAFS) result shows that the first coordination shells of Ni in the two samples are nearly identical, that is, non-porphyrin Ni also exists in a square-planar coordination of four N and the Ni-N distance is 0.192 nm.

Key words [PORPHYRIN](#) [NICKEL COMPOUNDS](#) [RESIDUAL OIL](#)

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