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交联聚合物线团的变形能力研究

董朝霞, 李明远, 吴肇亮, 林梅钦

Enhanced Oil Recovery Research Center, University of Petroleum, Beijing, 102249, China

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**摘要** Linked polymer solution (LPS) is defined as the solution of linked polymer coils (LPCs) dispersed in water, composed of low concentration partially hydrolyzed polyacrylamide (HPAM) and aluminum citrate (crosslinker). In the work, the conformational changes of LPCs under different conditions were investigated by the methods of membrane filtering under low pressure, dynamic light scattering and core flooding experiments. The results showed that in some conditions the LPCs could be compressed mechanically to 1/158.5 of their original volume because of relatively lower HPAM cross-linking. The hydration property of LPCs was similar to that of normal polymer coils. The deformation of LPCs was more restricted than that of ordinary polymer coils under the flow shear stress or the shift of hydration equilibrium caused in the variation of the electrolyte concentration which is responsible for the effective plugging in the throats of porous media when LPCs are used for deep diverting.

**关键词** [partially hydrolyzed polyacrylamide](#) [linked polymer solution](#) [coil](#) [deformation](#)

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**Deformation of Linked Polymer Coils**

DONG Zhaoxia, LI Mingyuan, WU Zhaoliang, LIN Meiqin

Enhanced Oil Recovery Research Center, University of Petroleum, Beijing, 102249, China

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**Abstract** Linked polymer solution (LPS) is defined as the solution of linked polymer coils (LPCs) dispersed in water, composed of low concentration partially hydrolyzed polyacrylamide (HPAM) and aluminum citrate (crosslinker). In the work, the conformational changes of LPCs under different conditions were investigated by the methods of membrane filtering under low pressure, dynamic light scattering and core flooding experiments. The results showed that in some conditions the LPCs could be compressed mechanically to 1/158.5 of their original volume because of relatively lower HPAM cross-linking. The hydration property of LPCs was similar to that of normal polymer coils. The deformation of LPCs was more restricted than that of ordinary polymer coils under the flow shear stress or the shift of hydration equilibrium caused in the variation of the electrolyte concentration which is responsible for the effective plugging in the throats of porous media when LPCs are used for deep diverting.

**Key words** [partially hydrolyzed polyacrylamide](#); [linked polymer solution](#); [coil](#); [deformation](#)

通讯作者:

董朝霞 [dxz@bjpeu.edu.cn](mailto:dxz@bjpeu.edu.cn)

作者个人主页: 董朝霞; 李明远; 吴肇亮; 林梅钦

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