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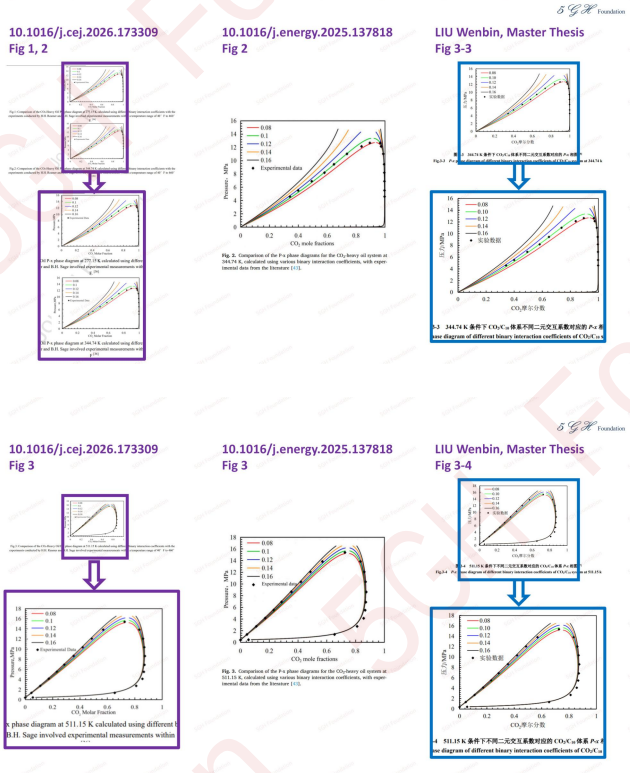
All Figures in Two Articles by LIU Yueliang (刘月亮) Are Identical and Derived from a Single Master's Thesis

An investigation conducted by the 5GH Team has revealed that two articles, [1] and [2], contain 20 identical figures, all of which are reused from the Master's Thesis of LIU Wenbin, a former student at China University of Petroleum (East China).

Every figure in Article [1] matches the corresponding figure in Article [2] exactly. Furthermore, all 20 figures are directly reproduced from LIU Wenbin's Master's Thesis.

In addition to the reused figures across both articles, the investigation also identified that multiple passages in Article [1] were paraphrased from Article [2].

Examples of the reused figures and paraphrased passages are provided below:



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10.1016/j.cej.2026.173309
Fig 4, 5

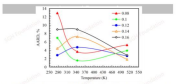

Fig.4 Temperature dependence of AARD under different binary interaction parameters

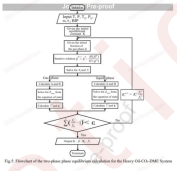

Fig.5 Flowchart of the two-phase phase equilibrium calculation for the Heavy Oil-CO2-DME System

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Fig 3

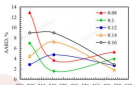

Fig. 4. Variation of the Average Absolute Relative Deviation (AARD) with temperature for different binary interaction coefficients.

Fig. 5. The calculation flowchart for the two-phase equilibrium of the binary oil-CO2-DME system.

LIU Wenbin, Master Thesis
Fig 3-4, 3-1

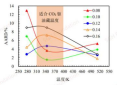

图 3-4 不同二元交互系数对 AARD 随温度的变化

Fig.3-4 Change of AARD with temperature under different binary interaction coefficients

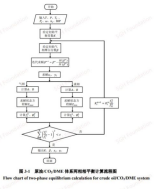

图 3-1 聚驱 CO2-DME 体系相组成平衡计算流程图

Fig.3-1 Flow chart of two-phase equilibrium calculation for crude oil/CO2/DME system

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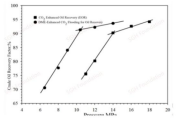
Fig 6, 7



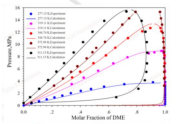


Fig. 7. P-x phase diagrams for the CO2-n-decane binary mixture. Filled dots represent experimental data [43,50], while solid lines denote the predictions from the thermodynamic theoretical model.

10.1016/j.energy.2025.137818
Fig 6, 7

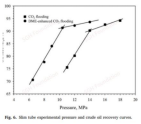


Fig. 6. Slim tube experimental pressure and crude oil recovery curves.

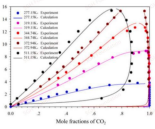


Fig. 7. P-x phase diagrams for the CO2-n-decane binary mixture. Filled dots represent experimental data [43,50], while solid lines denote the predictions from the thermodynamic theoretical model.

LIU Wenbin, Master Thesis
Fig 3-23, 3-10

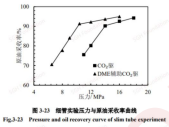


图 3-23 细管实验压力与原油采收率曲线

Fig.3-23 Pressure and oil recovery curve of slim tube experiment

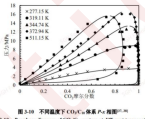


图 3-10 不同温度下 CO_2/C_{10} 体系 P-x 相图[87, 88]

Fig.3-10 P-x phase diagram of CO_2/C_{10} system at different temperatures

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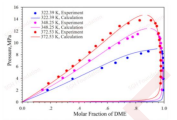
10.1016/j.cej.2026.173309
Fig 8, 9



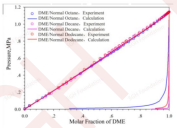


Fig. 8. P-x phase diagrams for the DME-n-octane, DME-n-decane, and DME-n-dodecane binary mixtures at 323.15 K. Filled dots represent experimental data [13], while solid lines denote the predictions from the thermodynamic theoretical model.

10.1016/j.energy.2025.137818
Fig 8, 9

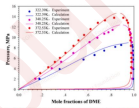


Fig. 8. P-x phase diagrams for the CO_2-n-octane binary mixture. Filled dots represent experimental data [43,50], while solid lines denote the predictions from the thermodynamic theoretical model.

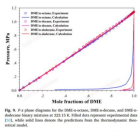


Fig. 9. P-x phase diagrams for the DME-CO_2 binary mixture. Filled dots represent experimental data [51], while solid lines denote the predictions from the thermodynamic theoretical model.

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Fig 3-8, 3-14

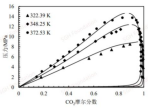

图 3-8 不同温度下 CO_2/C_8 体系 P-x 相图[86]

Fig.3-8 P-x phase diagram of CO_2/C_8 system at different temperatures

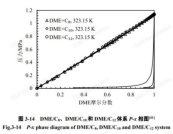

图 3-14 DME/C_{8}、DME/C_{10} 和 DME/C_{12} 体系 P-x 相图[83]

Fig.3-14 P-x phase diagram of DME/C_8, DME/C_{10} and DME/C_{12} system

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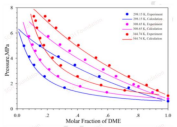
10.1016/j.cej.2026.173309
Fig 10, 11



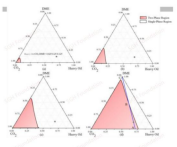


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Fig 10, 11

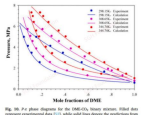

Fig. 10. P-x phase diagrams for the DME-CO_2 binary mixture. Filled dots represent experimental data [51], while solid lines denote the predictions from the thermodynamic theoretical model.

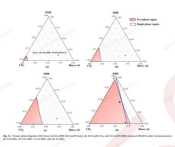

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Fig 3-15, ---

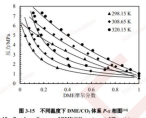

图 3-15 不同温度下 DME/CO_2 体系 P-x 相图[84]

Fig.3-15 P-x phase diagram of DME/CO_2 system at different temperatures

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Fig 12, 13

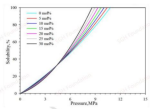

Fig. 12: CO_2 solubility in heavy oil within the heavy oil-CO_2-DME system

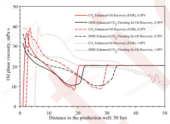

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Fig 12, 13

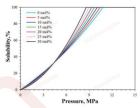

Fig. 13. Solubility of CO_2 in heavy oil within the heavy oil-CO_2-DME system with different mole fraction of DME.

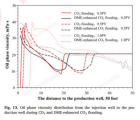

Fig. 13. Oil phase viscosity distribution from the injection well to the production well during CO_2 and DME-enhanced CO_2 flooding.

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Fig ---, ---

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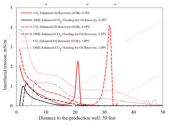
Fig 14, 15



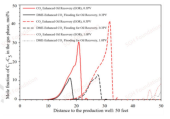


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Fig 14, 15

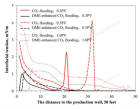

Fig. 14. Interfacial tension distribution between oil and gas phases from the injection well to the production well during CO_2 and DME-enhanced CO_2 flooding.

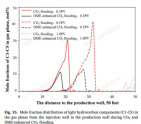

Fig. 15. Mole fraction distribution of light hydrocarbon components (C1-C5) in the gas phase from the injection well to the production well during CO_2 and DME-enhanced CO_2 flooding.

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Fig 3-24, 3-28

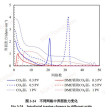

图 3-24 不同网格中油界面张力变化

Fig.3.24 Interfacial tension changes in different grids

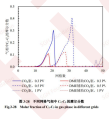

图 3-28 不同网格气相中 C_1-C_5 组摩尔分数

Fig.3.28 Mole fraction of C_1-C_5 in gas phase in different grids

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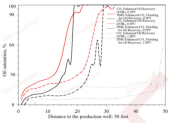
Fig 16, 17



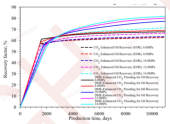


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Fig 16, 17

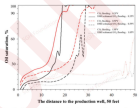

Fig. 16. Oil saturation distribution from the injection well to the production well during CO_2 and DME-enhanced CO_2 flooding.

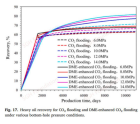

Fig. 17. Heavy oil recovery for CO_2 flooding and DME-enhanced CO_2 flooding under various bottom-hole pressure conditions.

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Fig 3-25, 3-32

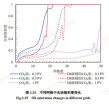

图 3-25 不同网格中油饱和度变化

Fig.3.25 Oil saturation changes in different grids

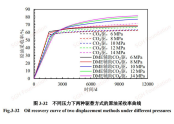

图 3-32 不同压力下两种驱替方式的累加采收率曲线

Fig.3.32 Oil recovery curve of two displacement methods under different pressures

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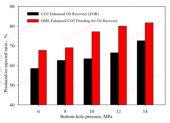
Fig 18, 19



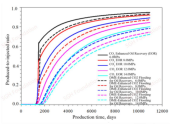


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Fig 18, 19

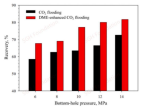

Fig. 18. Final heavy oil recovery for CO_2 flooding and DME-enhanced CO_2 flooding under various bottom-hole pressure conditions.

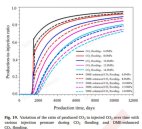

Fig. 19. Variation of the ratio of produced CO_2 to injected CO_2 over time with various injection pressure during CO_2 flooding and DME-enhanced CO_2 flooding.

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Fig ---, 3-35

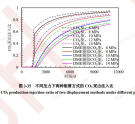

图 3-35 不同压力下两种驱替方式的 CO_2 累加注入量

Fig.3.35 CO_2 production-injection ratio of two displacement methods under different pressures

10.1016/j.cej.2026.173309
Fig 20

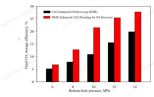

Fig.20. Final CO_2 storage efficiency of CO_2 flooding and DME-assisted CO_2 Flooding

10.1016/j.energy.2025.137818
Fig 20

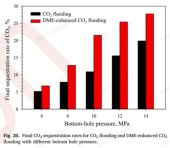

Fig. 20. Final CO_2 sequestration rates for CO_2 flooding and DME-enhanced CO_2 flooding with different bottom hole pressure.

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Fig ---

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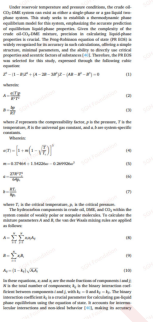

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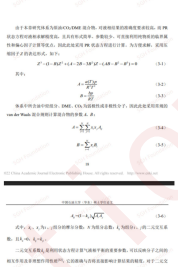

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10.1016/j.energy.2025.137818

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Articles [1] and [2] share only one common author: LIU Yueliang (刘月亮), affiliated with China University of Petroleum (Beijing). Notably, LIU Wenbin acknowledged in his Master's Thesis that he was supervised by HOU Jian and LIU Yueliang, stating: "本论文是在侯健老师和刘月亮老师的悉心指导下完成的" (This thesis was completed under the careful guidance of Professor HOU Jian and Professor LIU Yueliang). These findings indicate that LIU Yueliang bears primary responsibility for this case of figure/data reuse and text paraphrasing.

[1] 10.1016/j.cej.2026.173309
[2] 10.1016/j.energy.2025.137818
