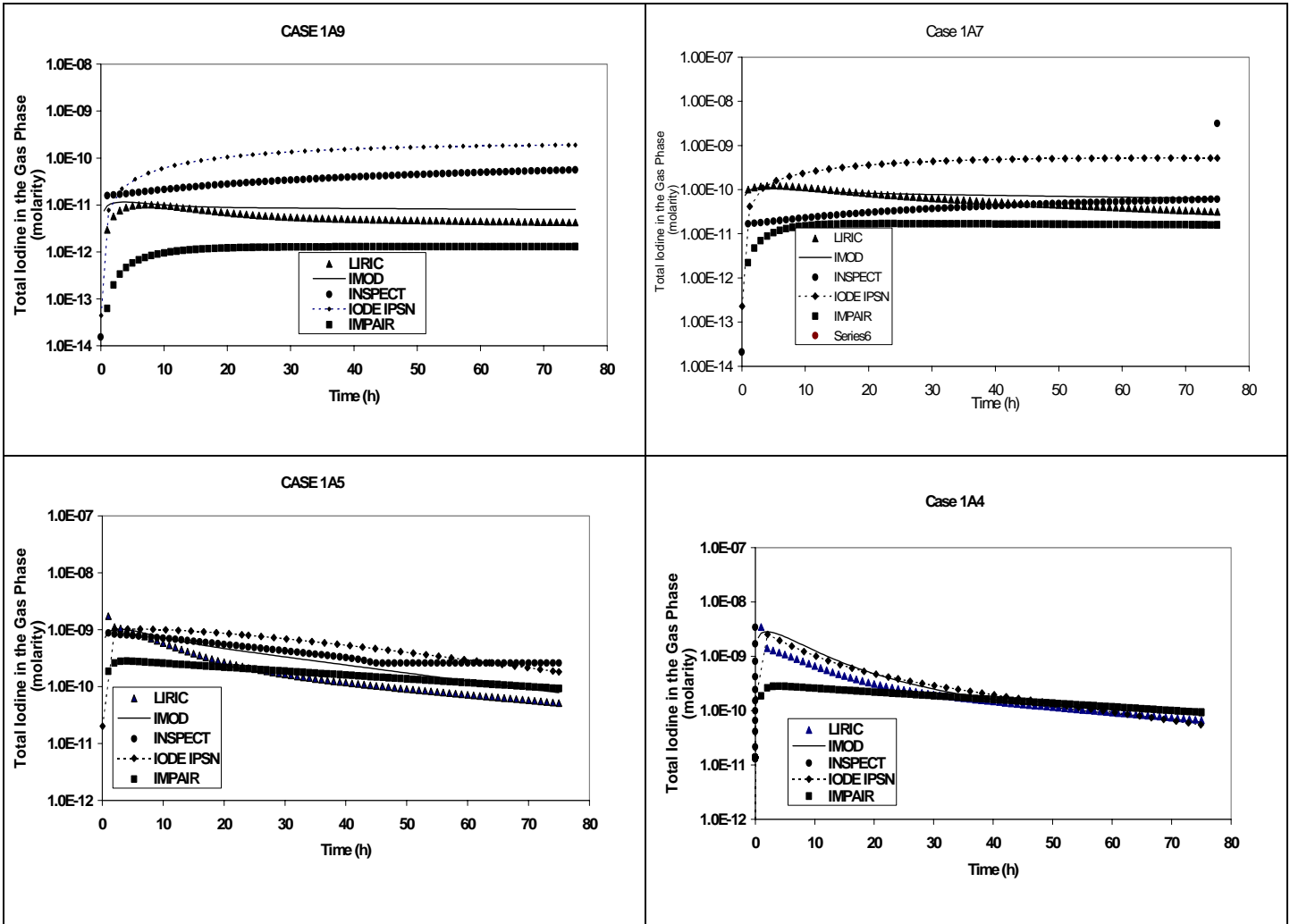
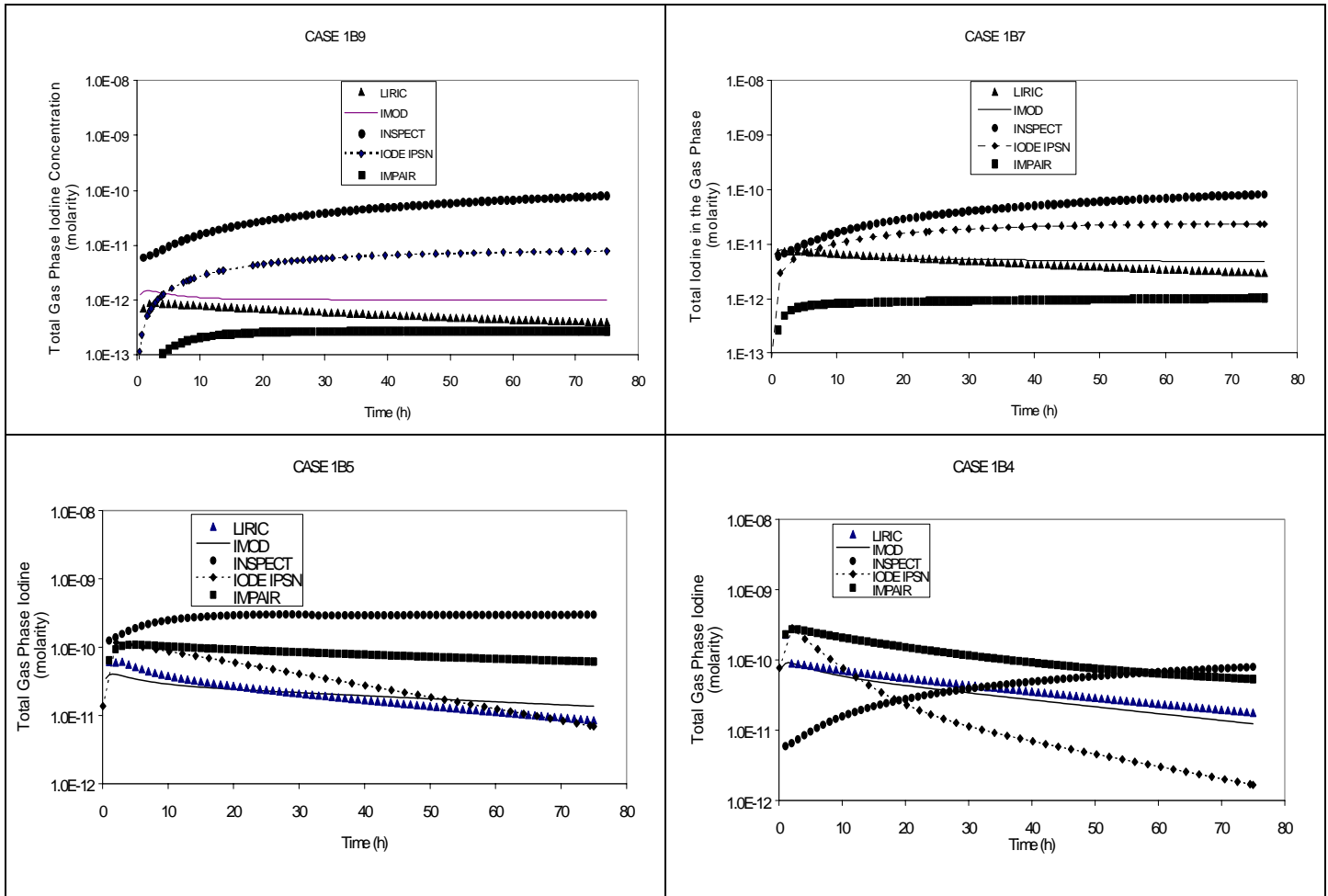


## APPENDIX C

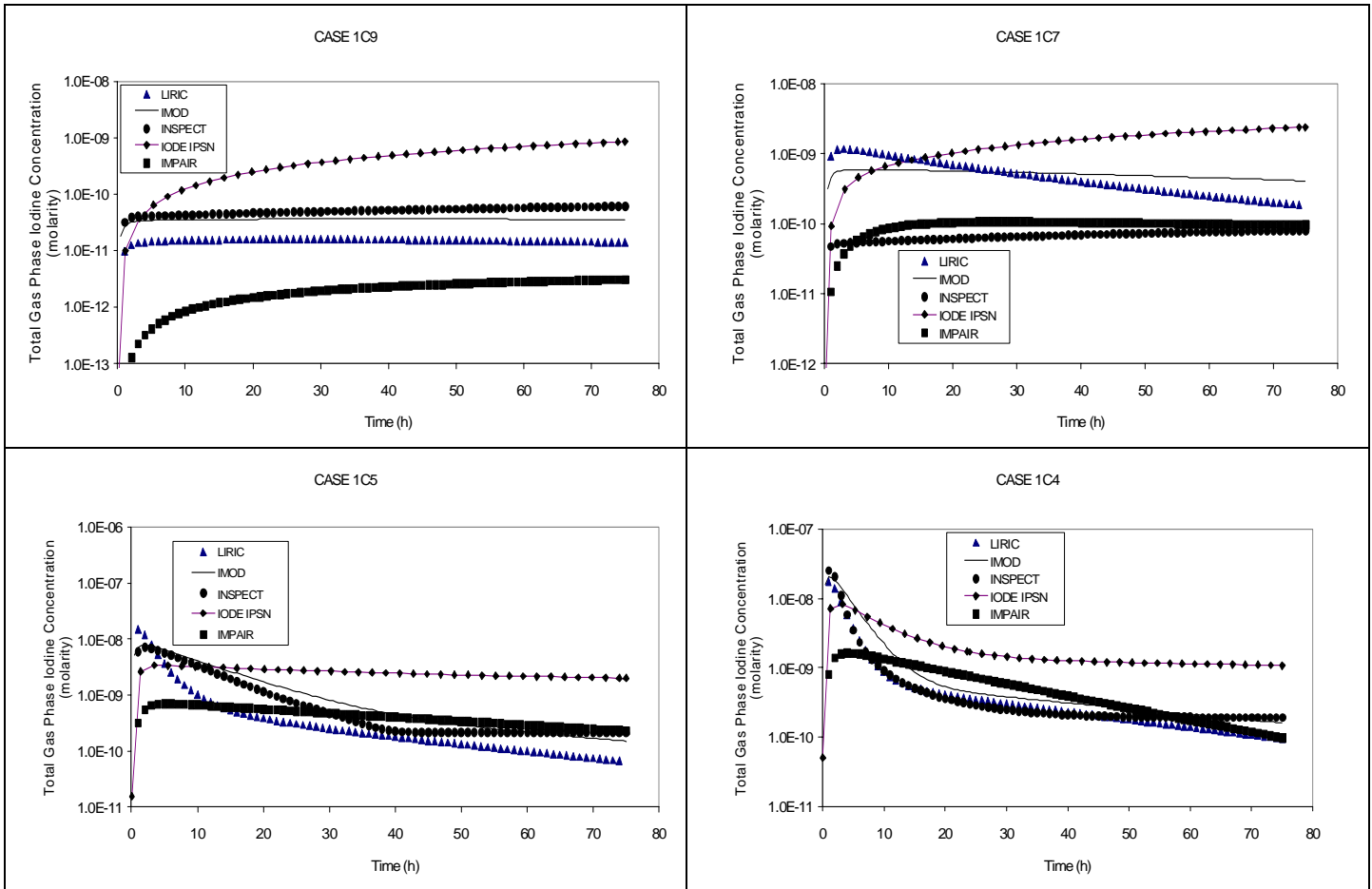
### CALCULATION RESULTS



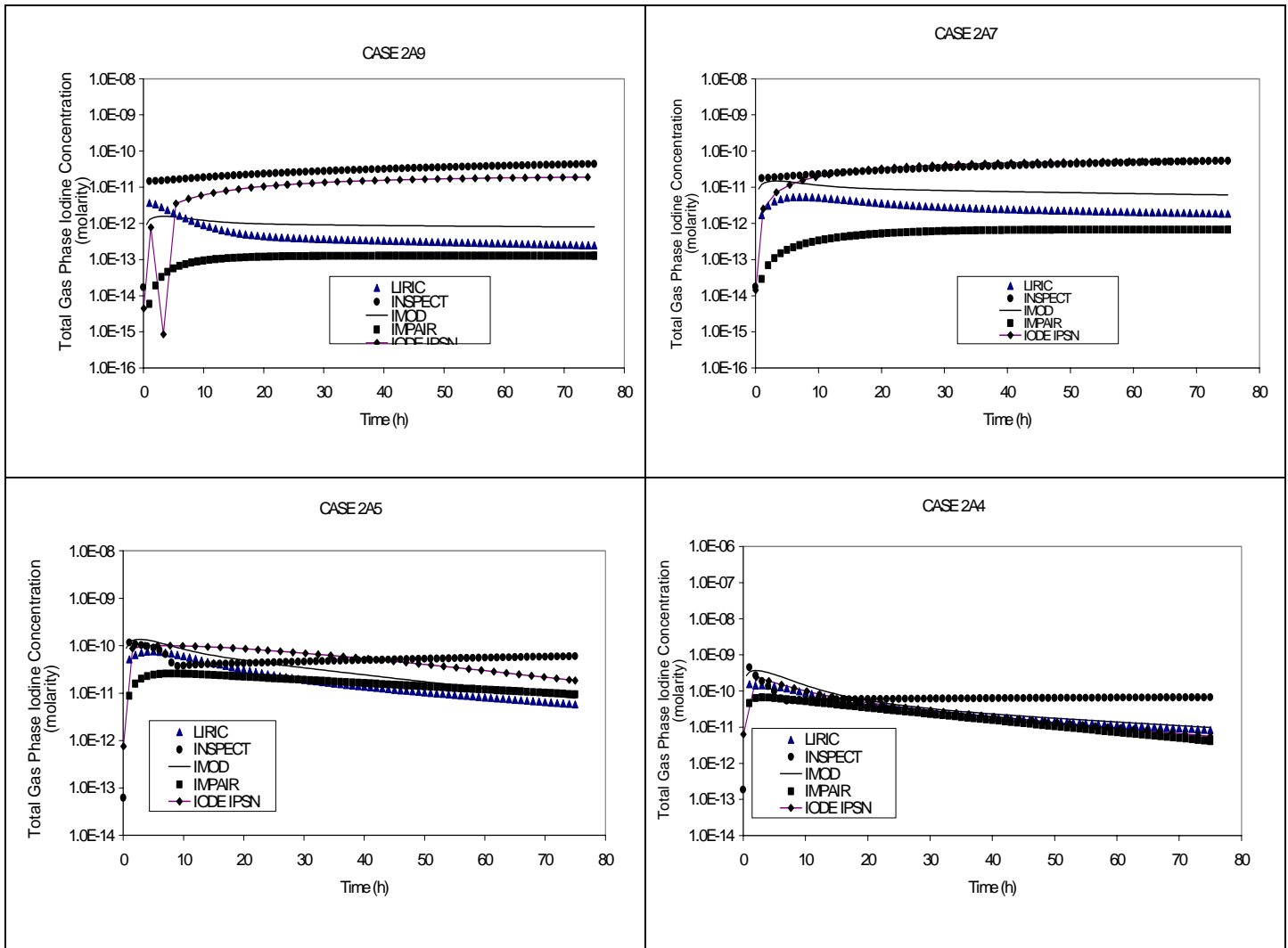
**Case 1A. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $90^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ k} \cdot \text{Gy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces.**



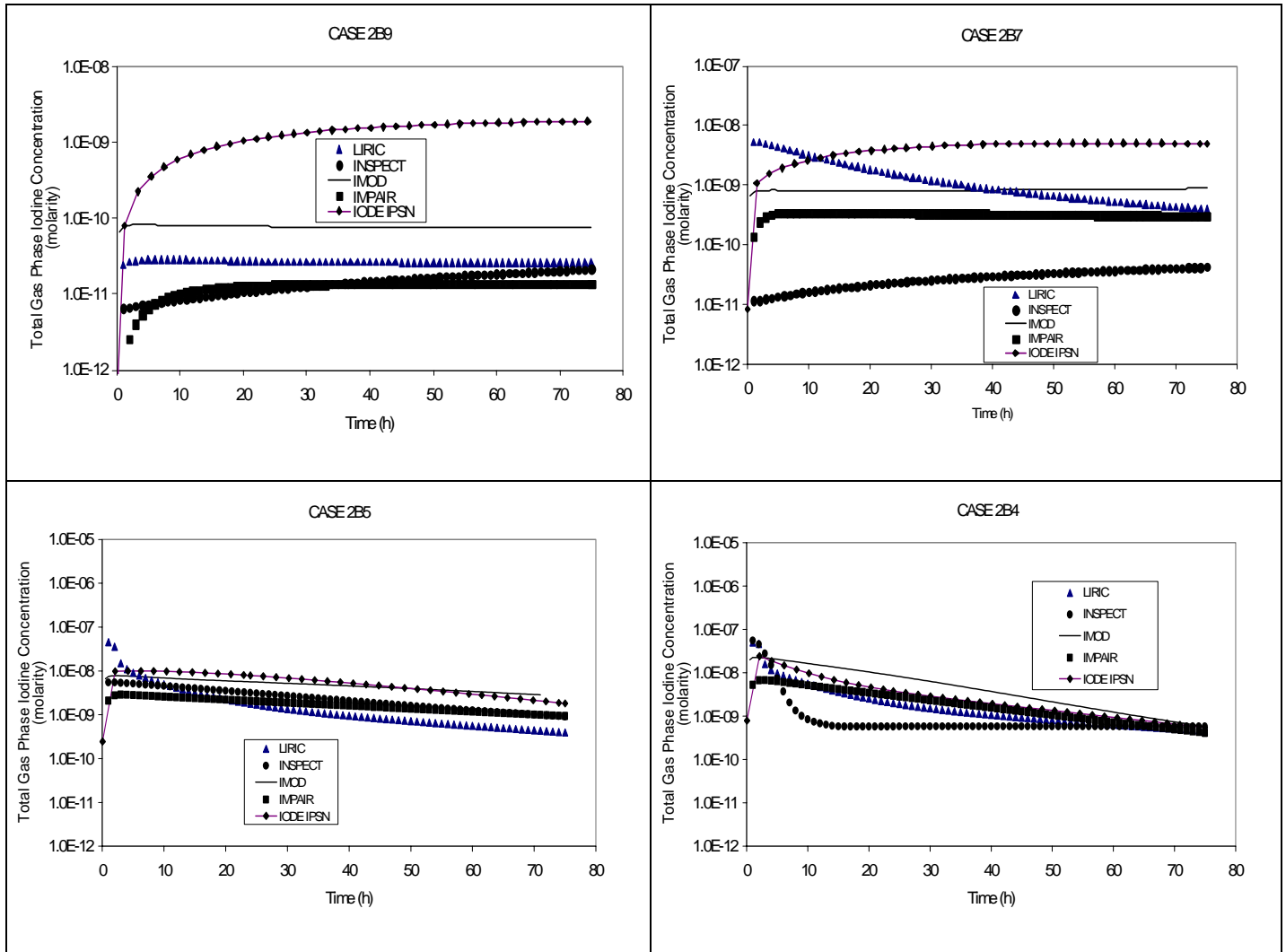
**Case 1B. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $130^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces.**



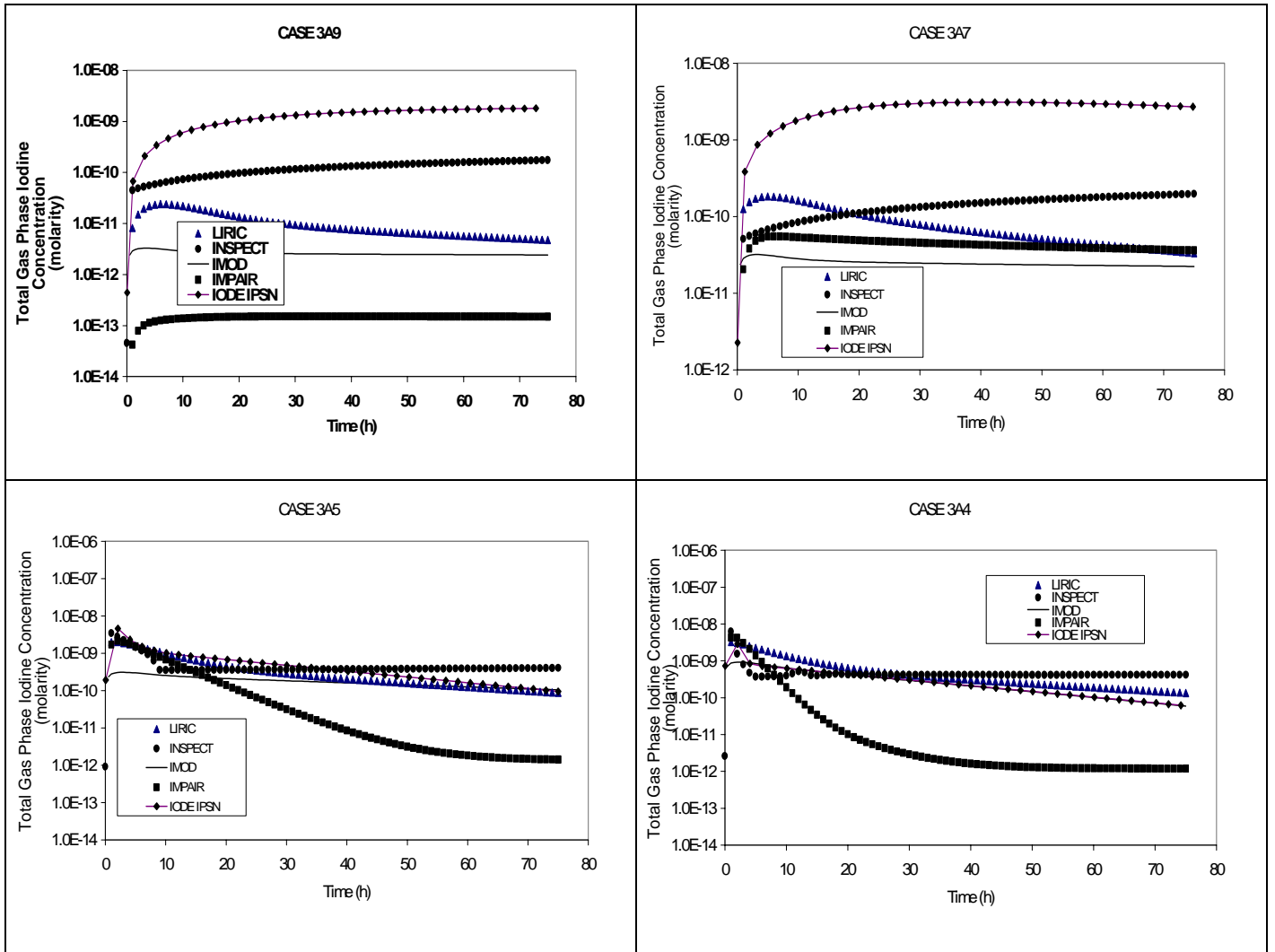
**Case 1C. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $60^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces.**



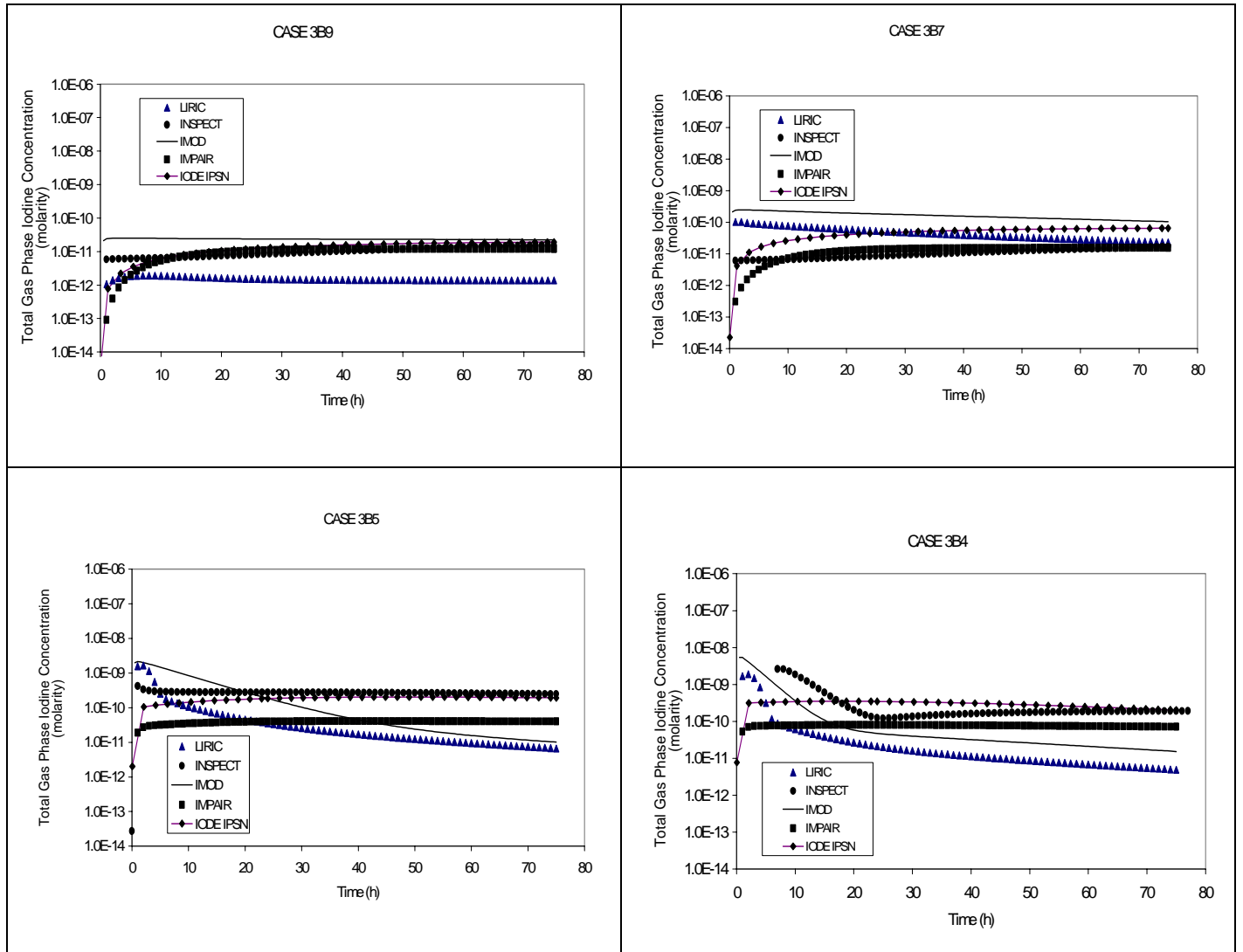
**Case 2A. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-6} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $90^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces.**



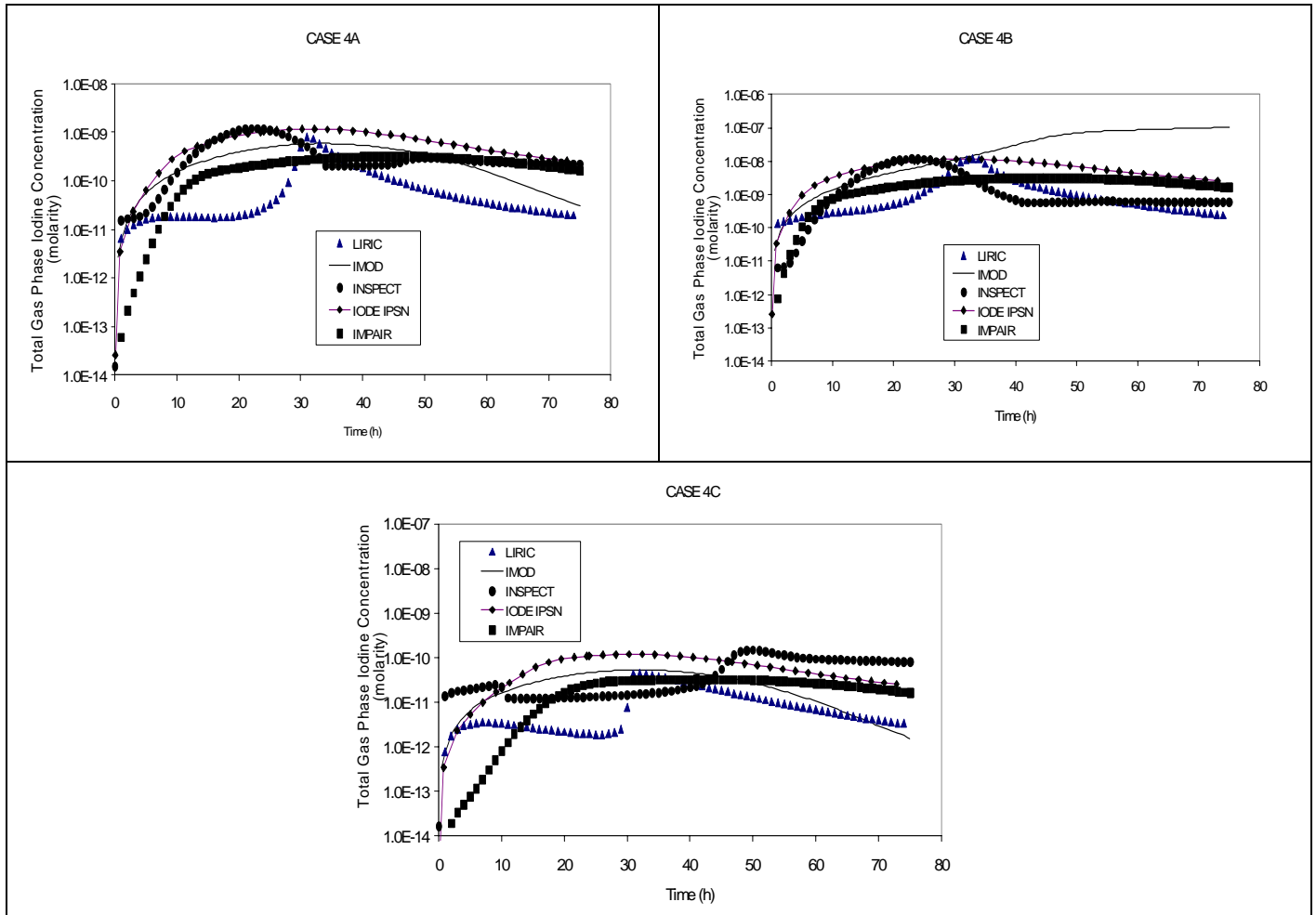
**Case 2B. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-4} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $90^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces.**



**Case 3A. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $90^\circ\text{C}$ , irradiated at a dose rate of  $10 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces.**

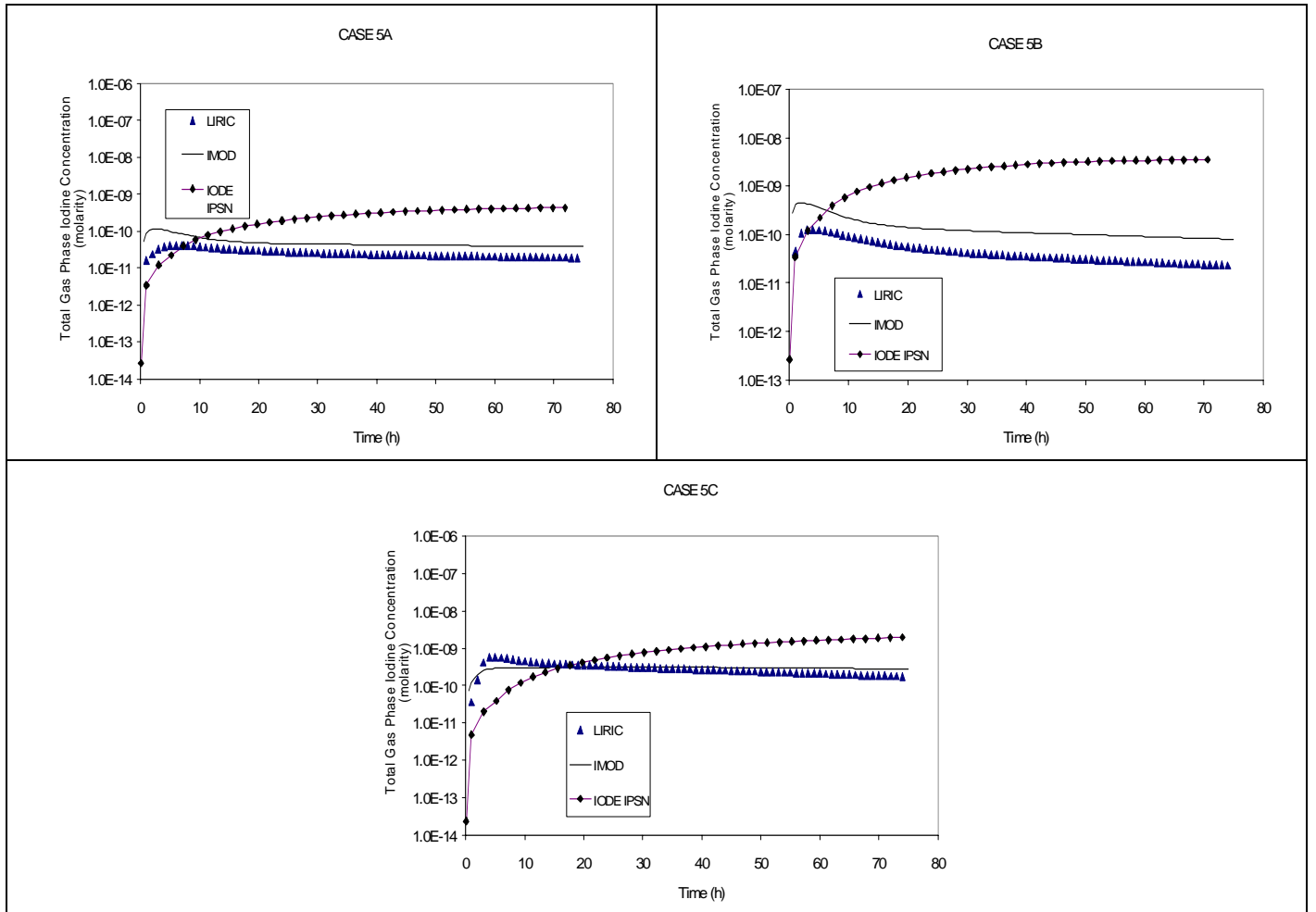


**Case 3B. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3} \text{ CsI}$  at  $90^\circ\text{C}$ , irradiated at a dose rate of  $0.1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces.**

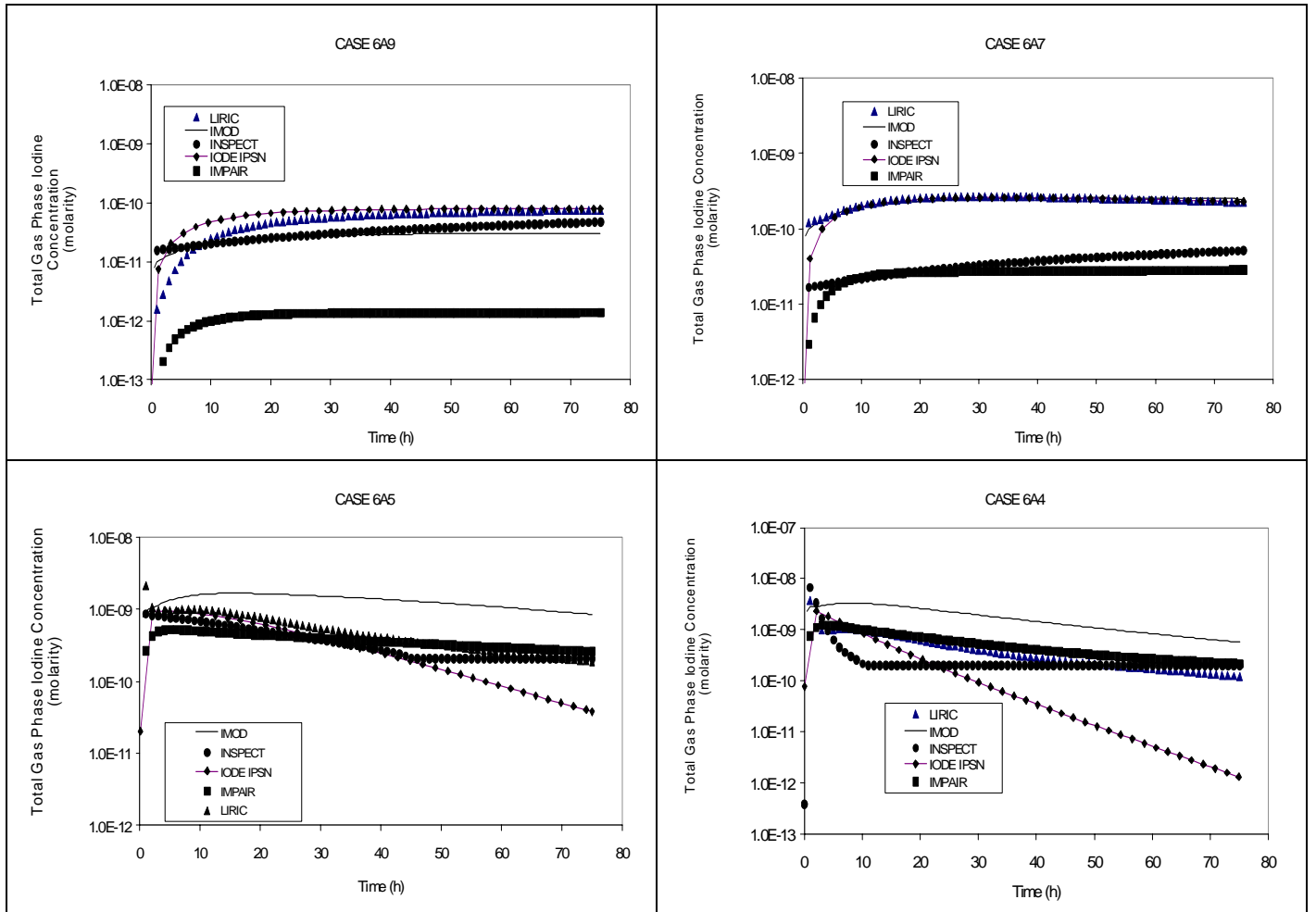


**Case 4. Percentage of iodine inventory in the gas phase for (a)  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$ , (b)  $1 \times 10^{-4} \text{ mol} \cdot \text{dm}^{-3}$ , and (c)  $1 \times 10^{-6} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $90^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces. The pH is assumed to decrease slowly from 10 to 3.5 (see Appendix A).**

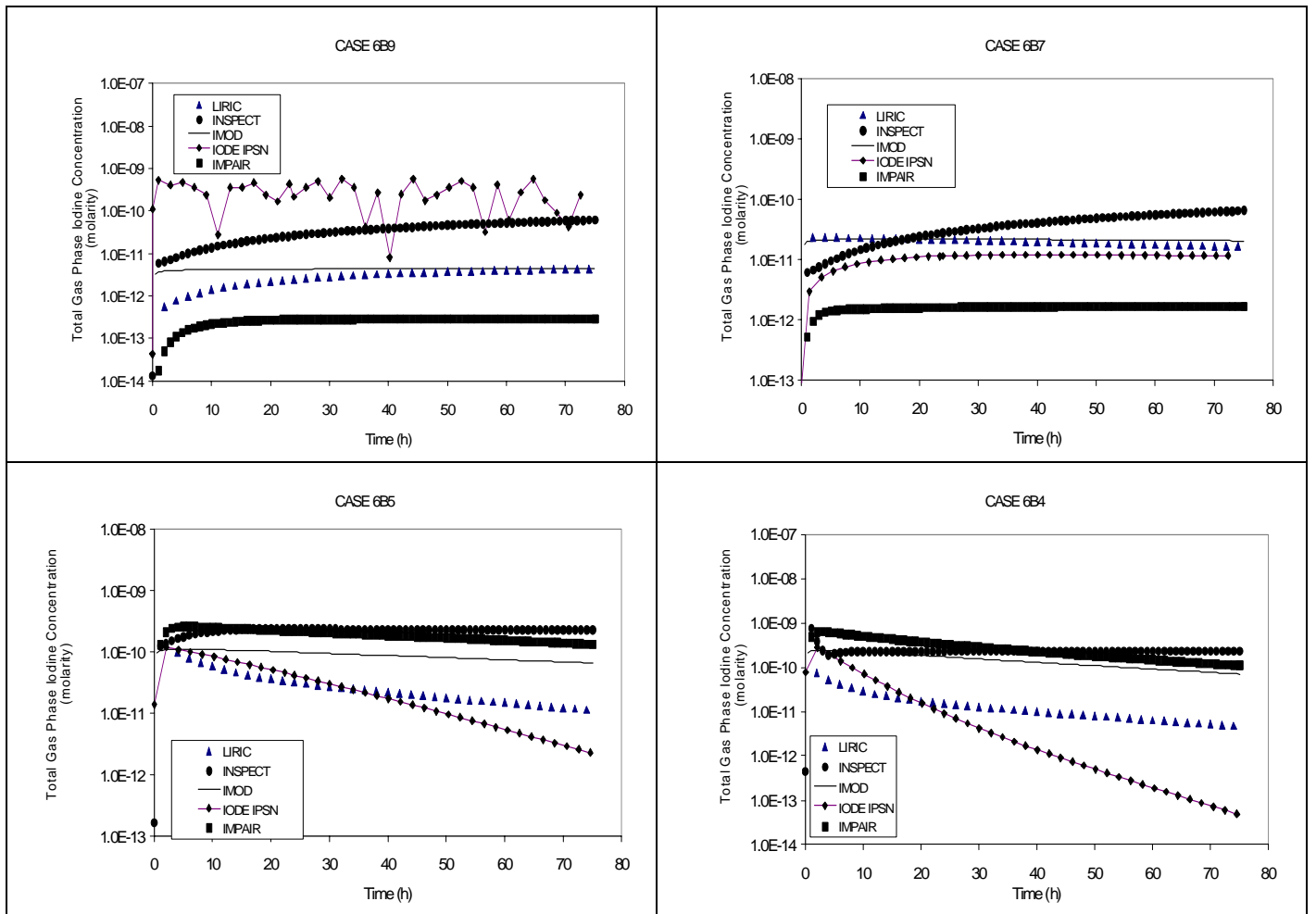




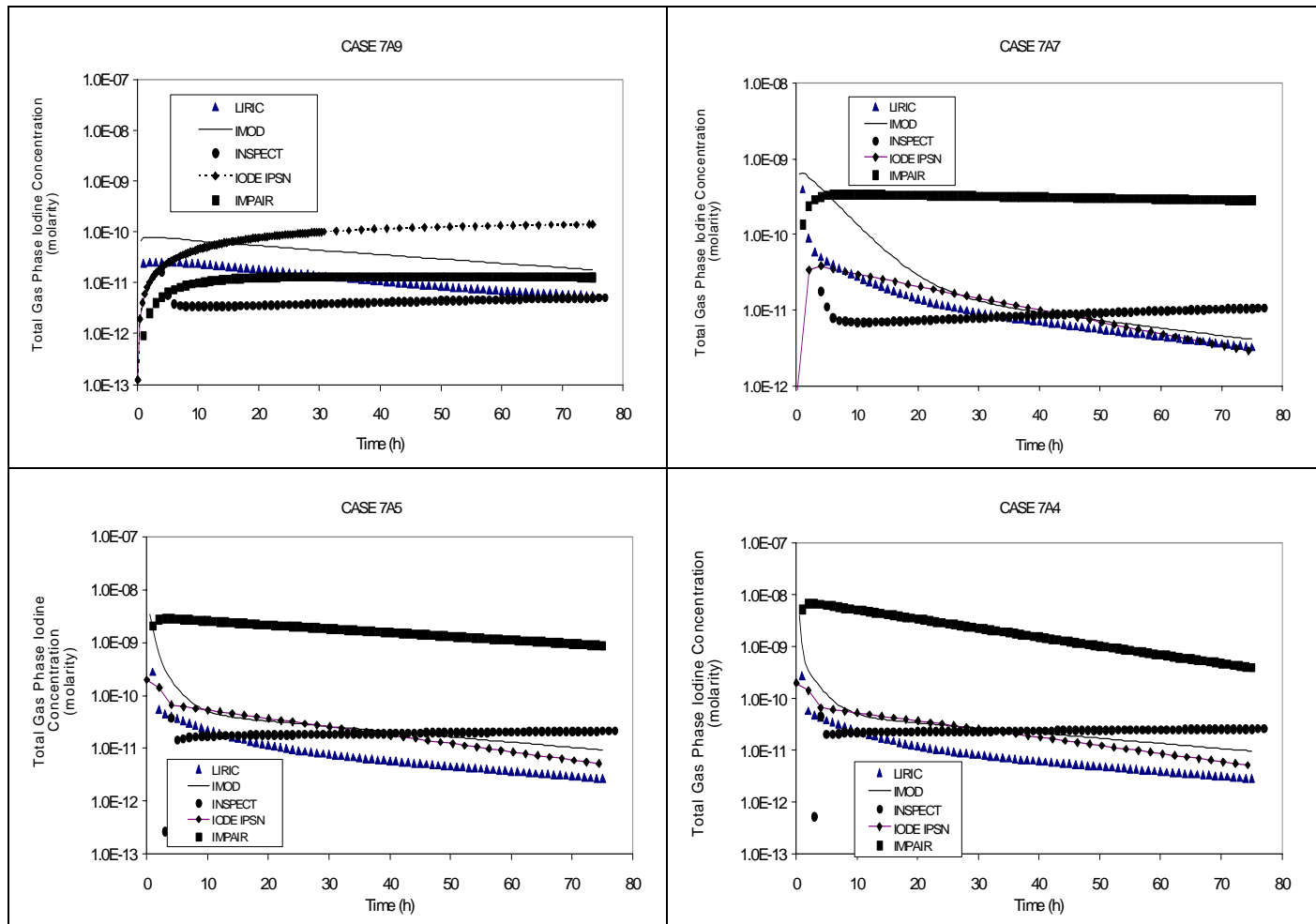
**Case 5. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at (a)  $90^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ ; (b)  $90^\circ\text{C}$ , irradiated at a dose rate of  $10 \text{ kGy} \cdot \text{h}^{-1}$ ; and (c)  $60^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces.**



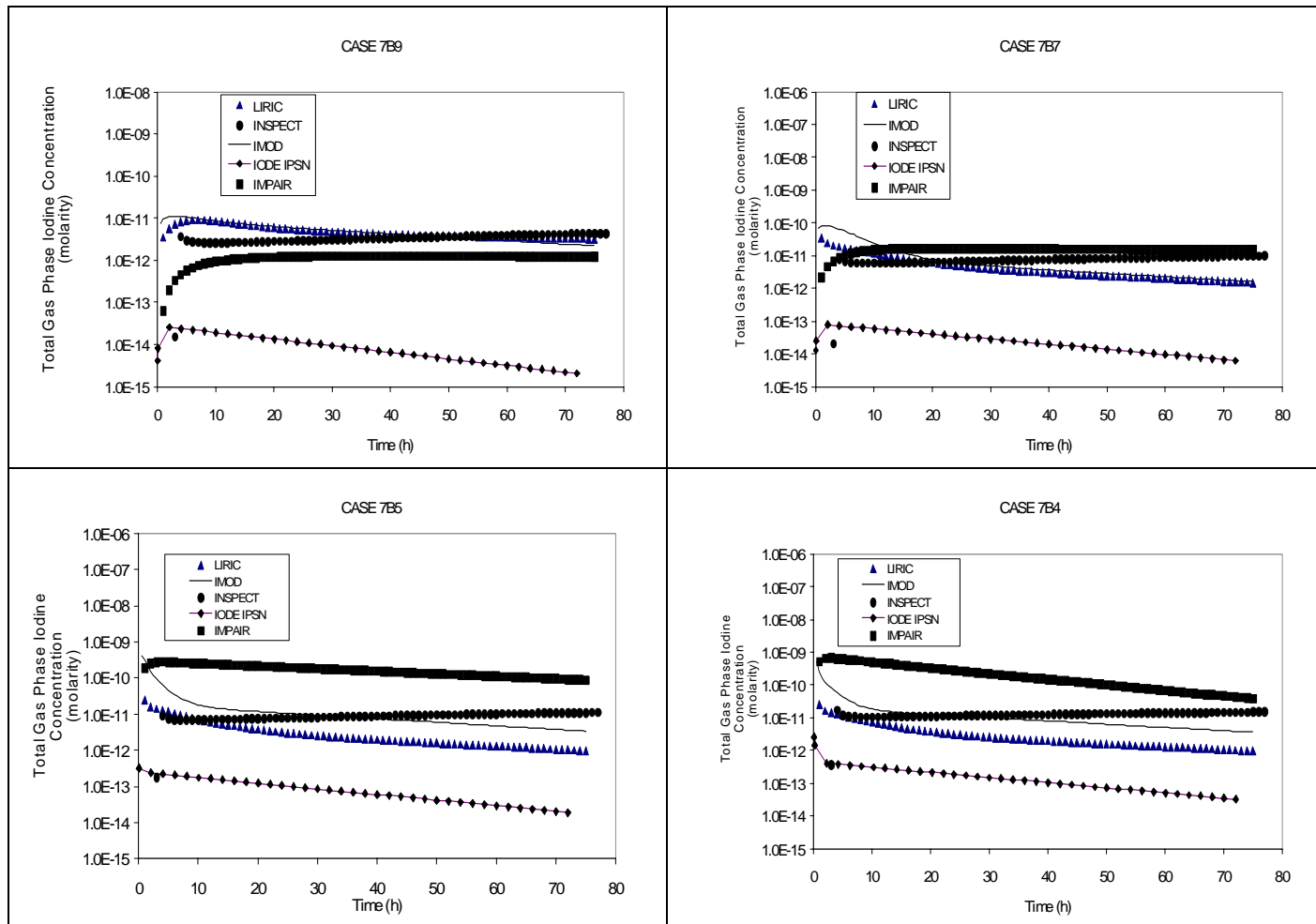
**Case 6A. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $90^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . Condensing conditions, condensate and sump water are assumed to contact painted surfaces.**



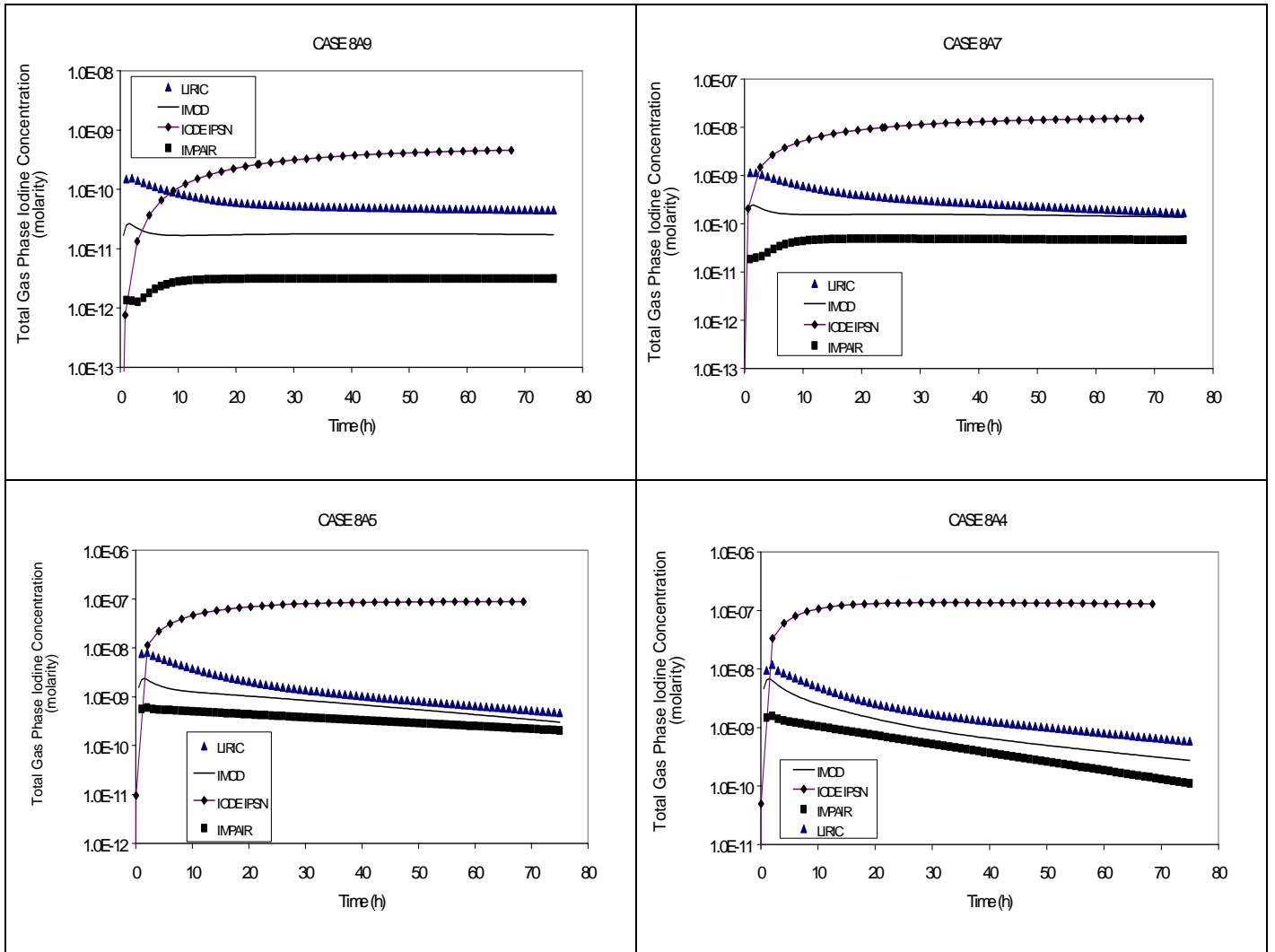
**Case 6B.** Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $130^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . Condensing conditions, condensate and sump water are assumed to contact painted surfaces.



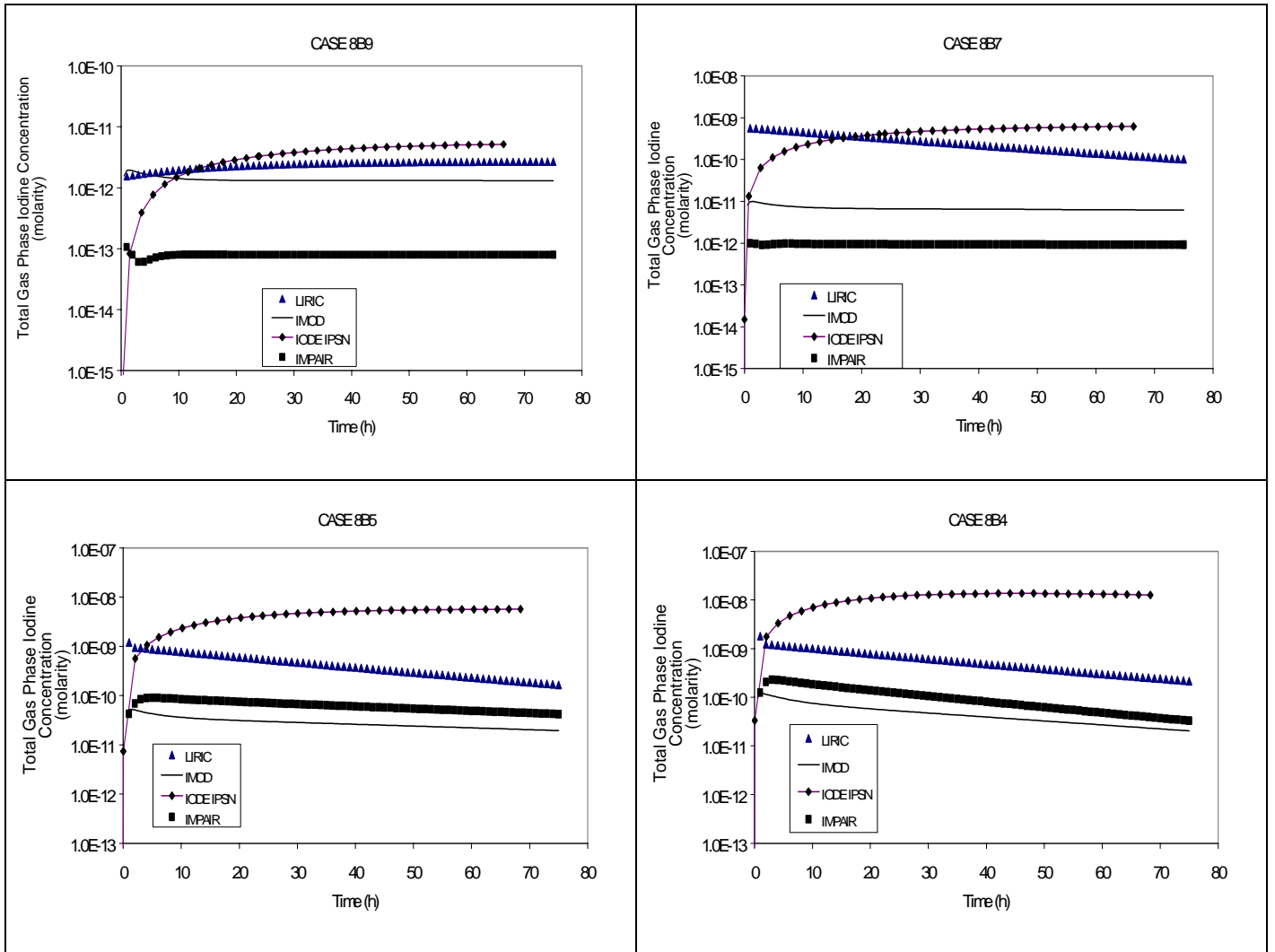
**Case 7A.** Percentage of iodine inventory in the gas phase for  $1 \times 10^{-4} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $90^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces. 100 g Ag are assumed to be in the sump water, with 10% of the Ag in the form of AgO.



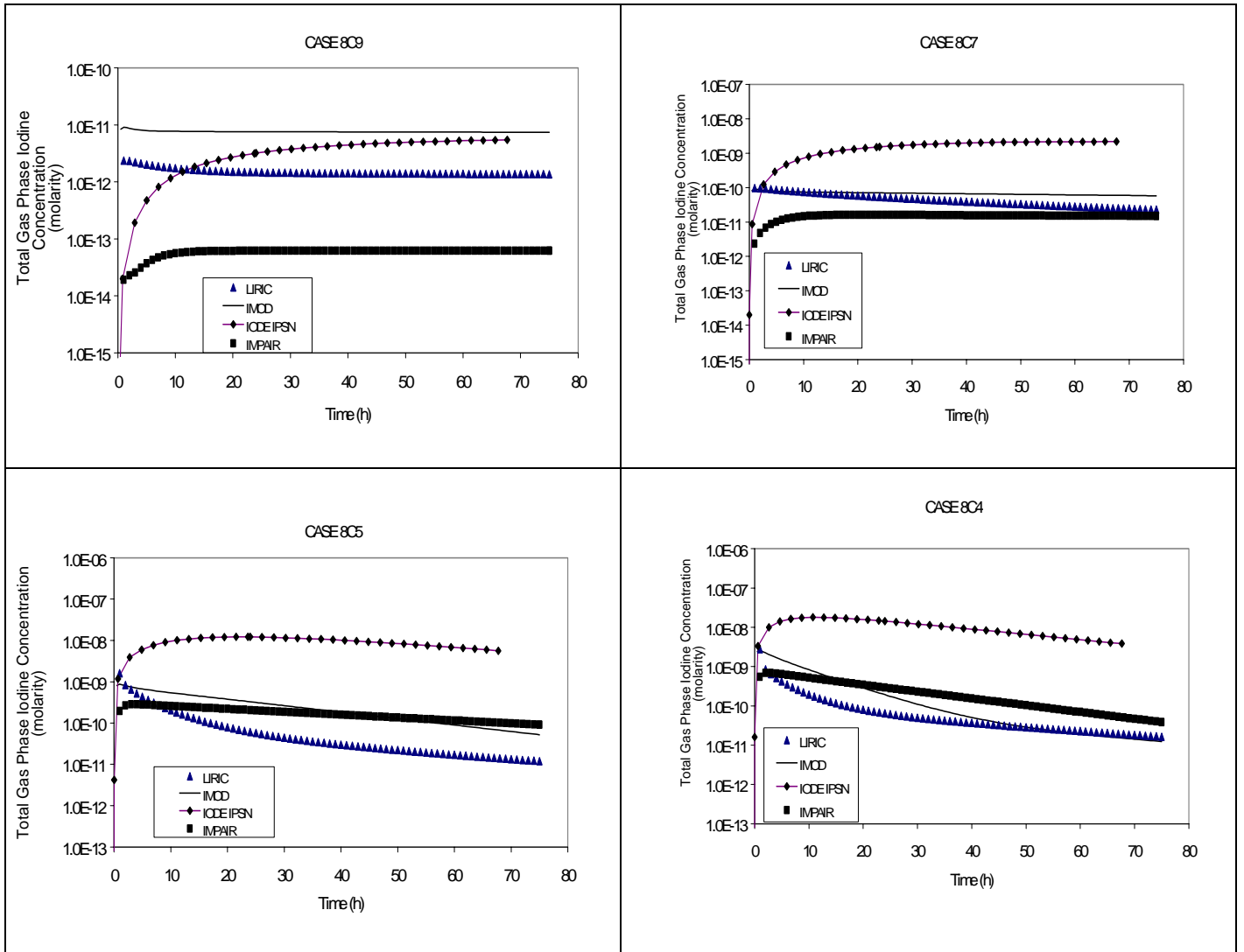
**Case 7B.** Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $90^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation, sump water is assumed to contact painted surfaces. 100 g Ag are assumed to be in the sump water, with 10% of the Ag in the form of AgO.



**Case 8A. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $90^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation.  $1 \times 10^{-3} \text{ mol} \cdot \text{dm}^{-3}$  organic impurities are assumed to be initially in the sump water.**



**Case 8B. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $130^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation.  $1 \times 10^{-3} \text{ mol} \cdot \text{dm}^{-3}$  organic impurities are assumed to be initially in the sump water.**



**Case 8C. Percentage of iodine inventory in the gas phase for  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  CsI at  $90^\circ\text{C}$ , irradiated at a dose rate of  $1 \text{ kGy} \cdot \text{h}^{-1}$ . No condensation.  $1 \times 10^{-5} \text{ mol} \cdot \text{dm}^{-3}$  organic impurity initially in the sump water.**



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