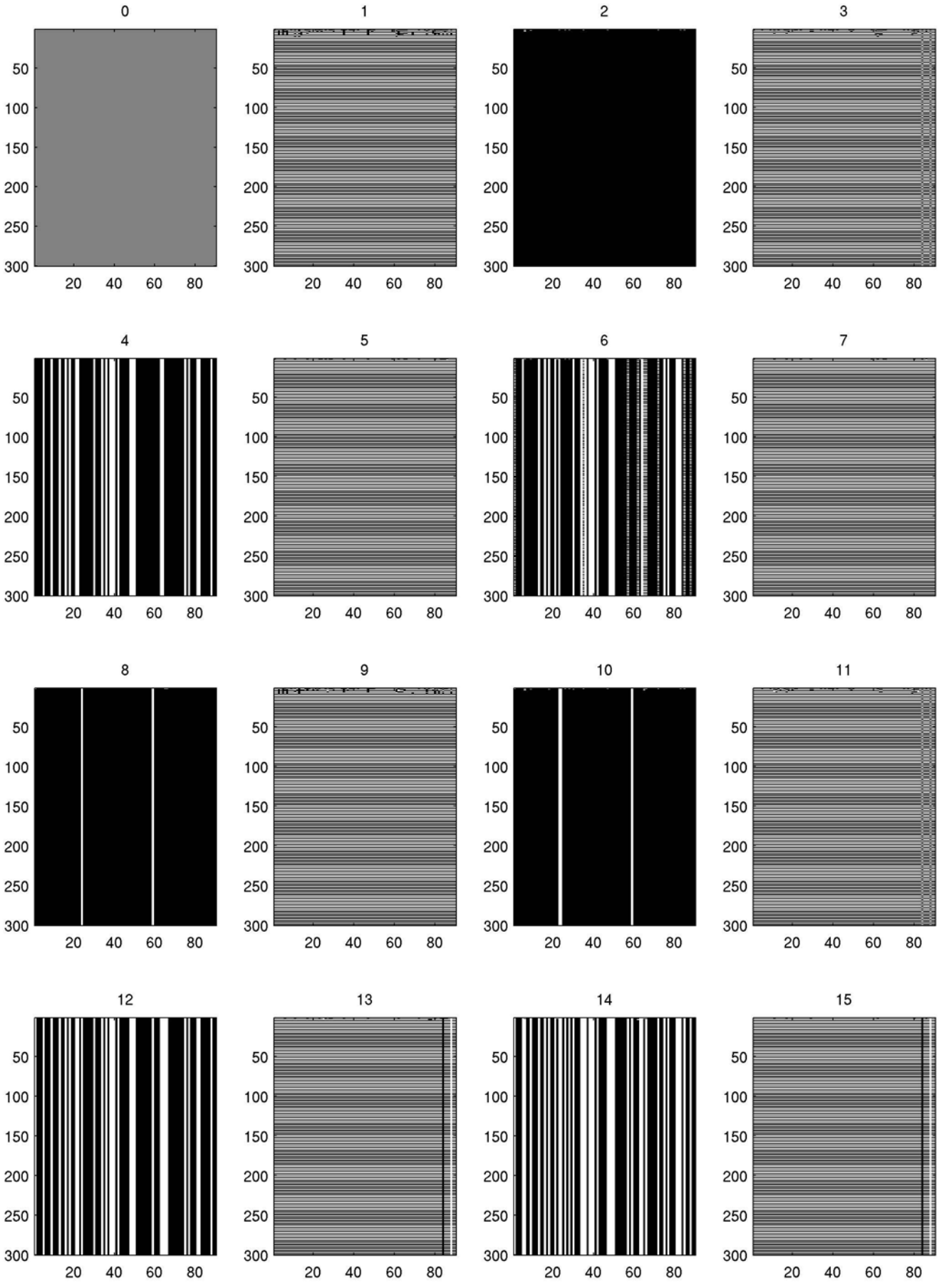
Supplemental Material 1

Output patterns of the agent-based brain-inspired model are visualized as space-time diagrams. All nodes are represented horizontally in a row. Each cell can have a state, either on (white cells) or off (black cells). In each time step, nodes change states according to the states of their neighbors. Every node in the system updates simultaneously, and the new states are appended below the previous ones. Time space diagrams were generated for all rules 0 through 255, starting from the same initial configuration of 30 randomly selected nodes being on. Each diagram was generated at $\tau_p = \tau_n = 0.5$.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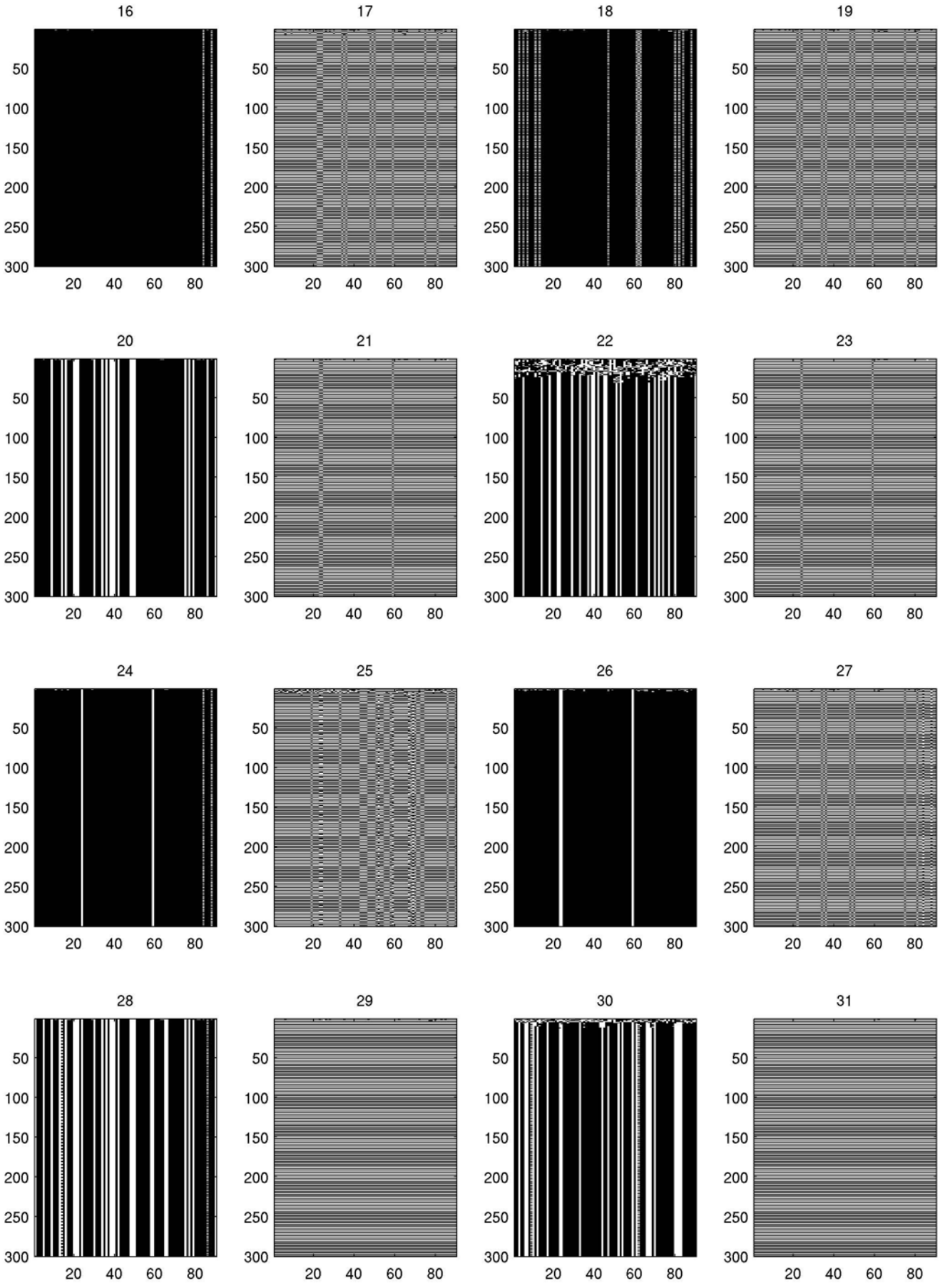
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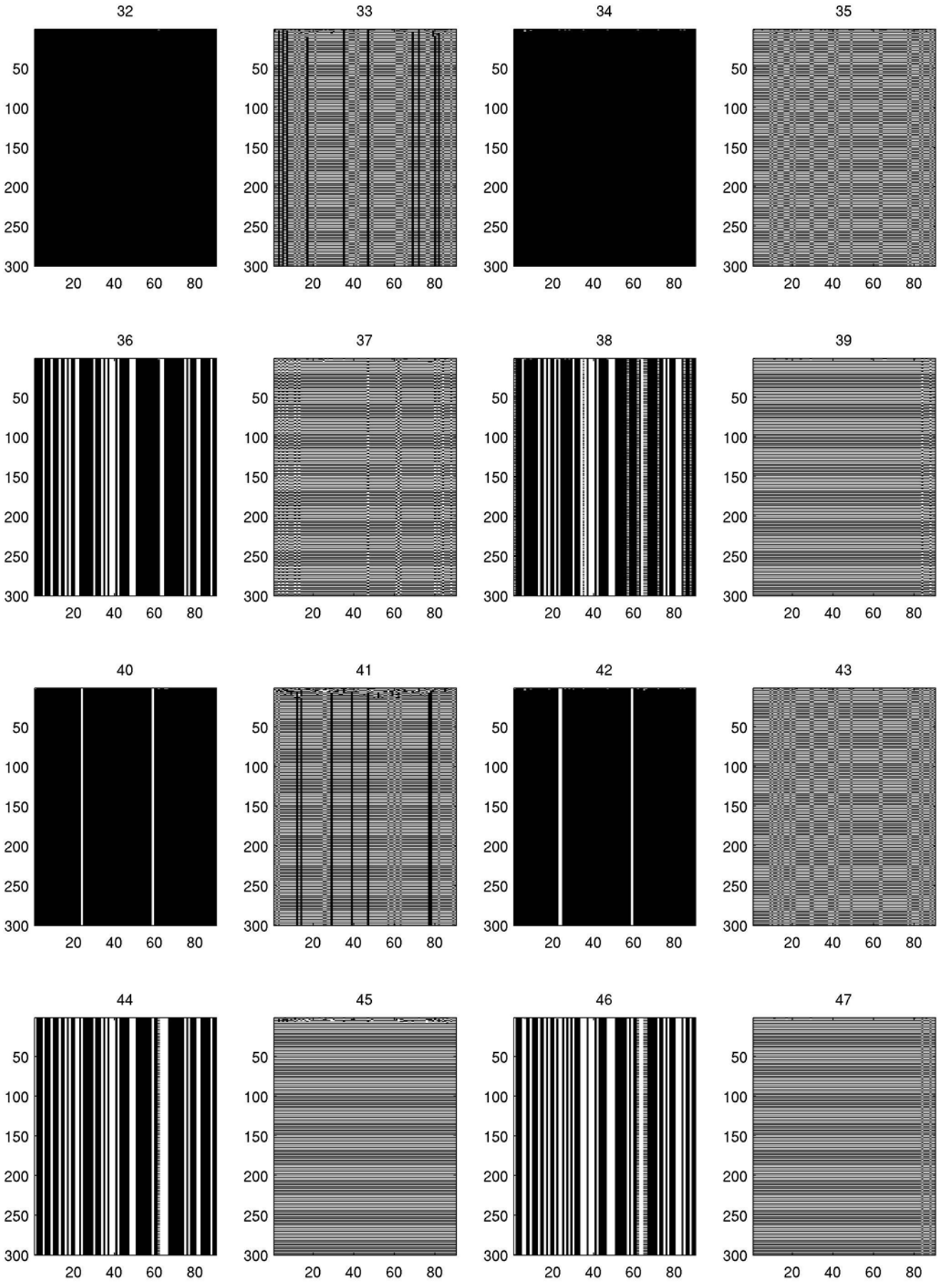
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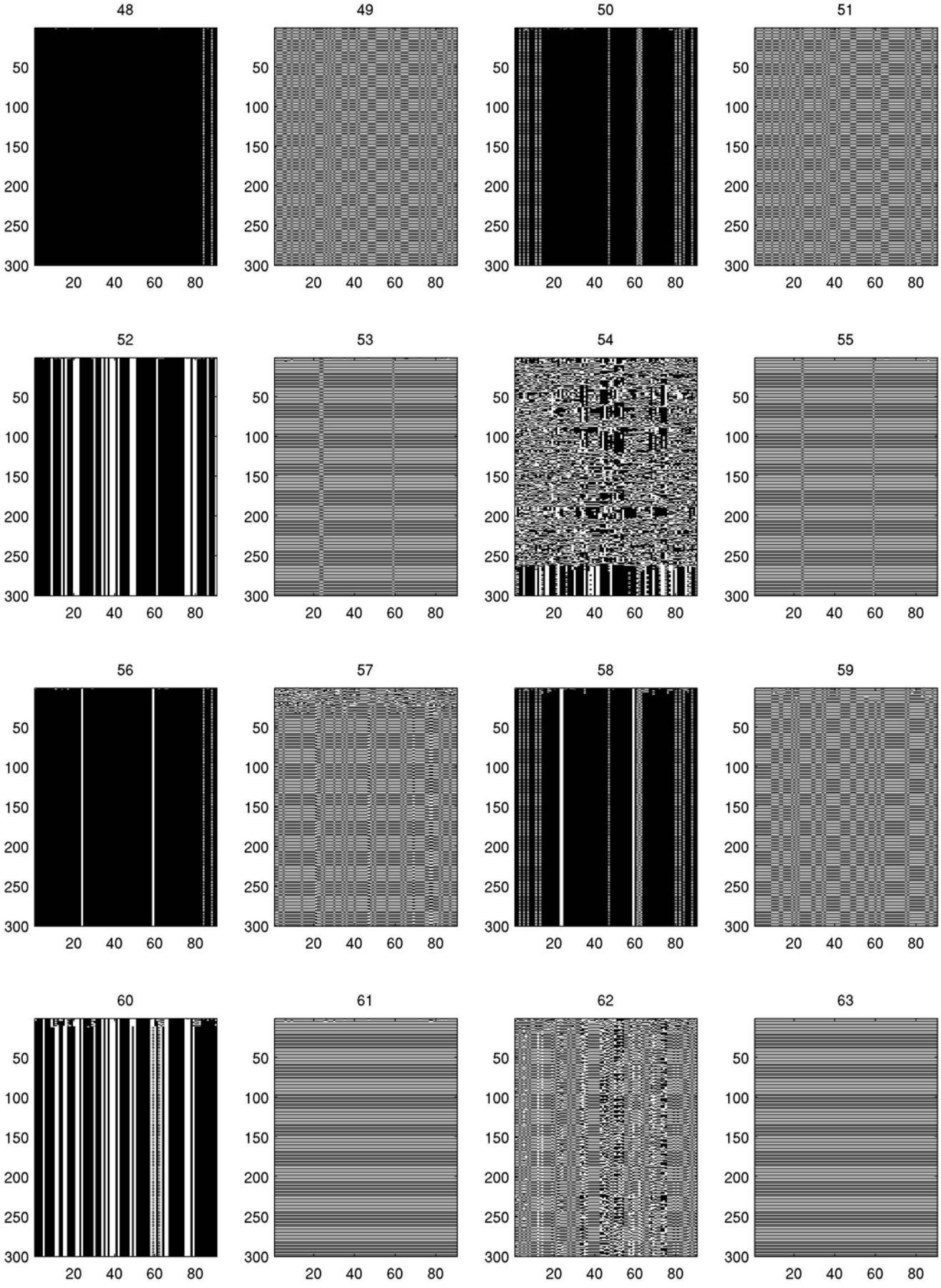
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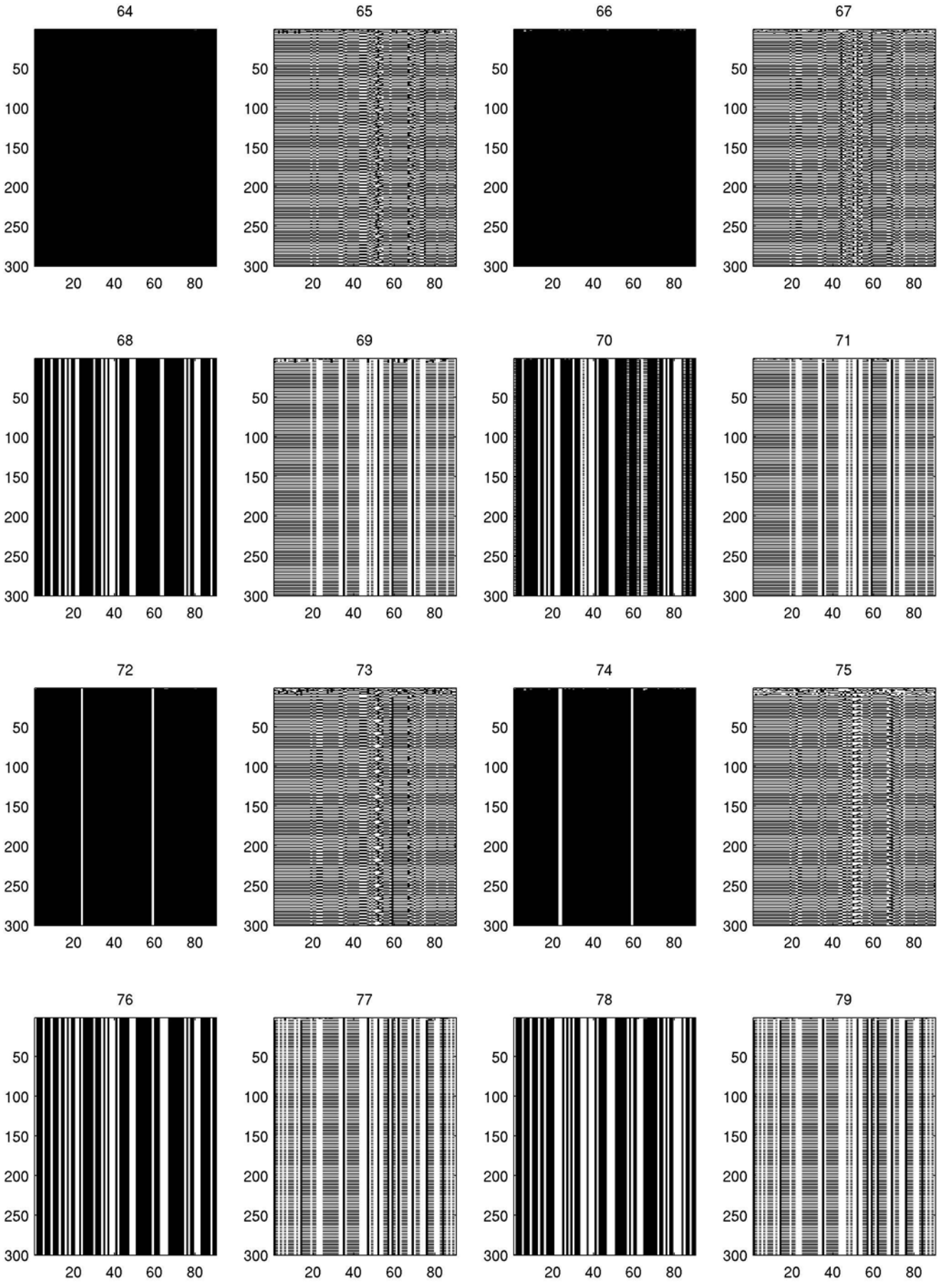
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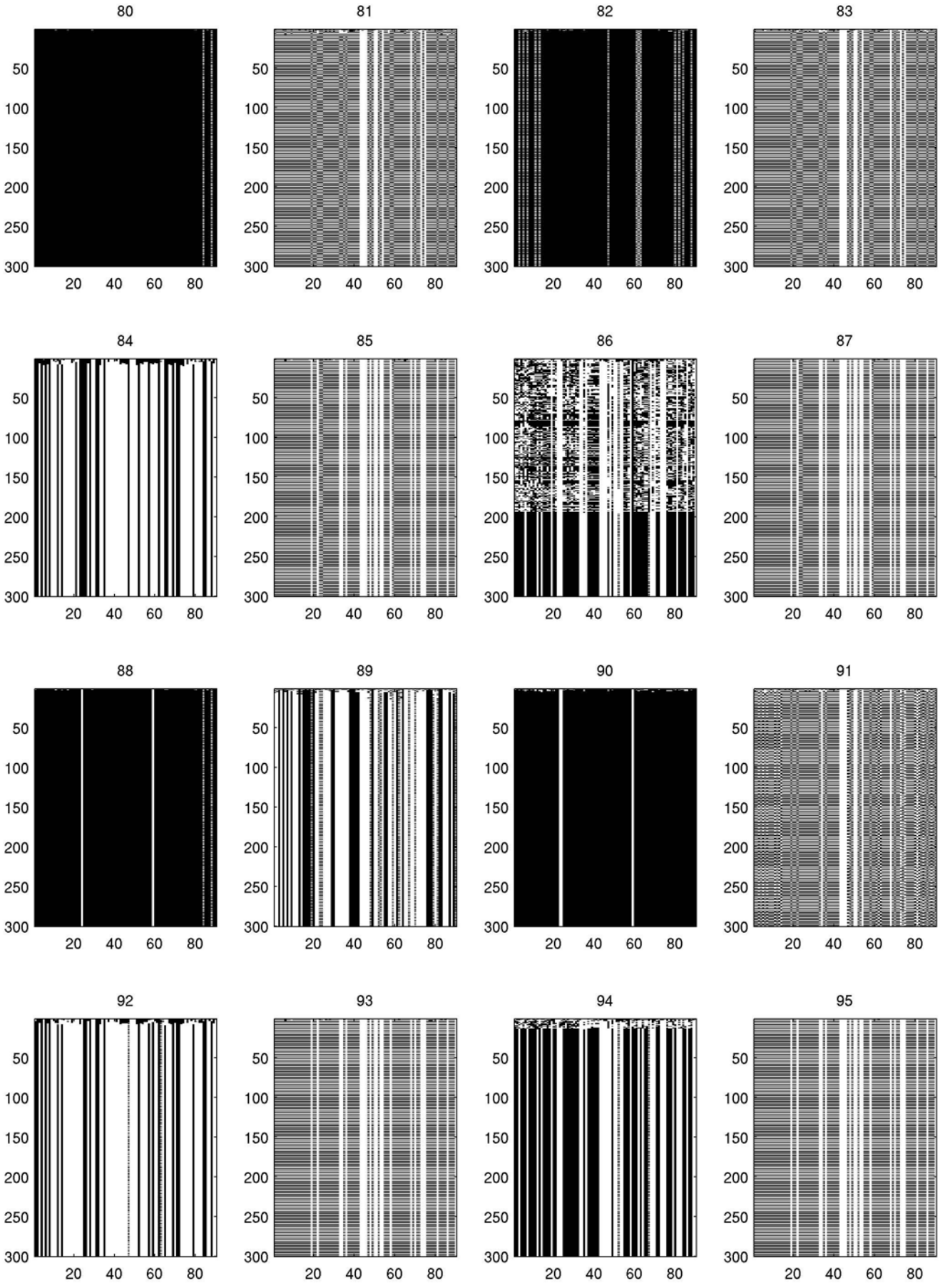
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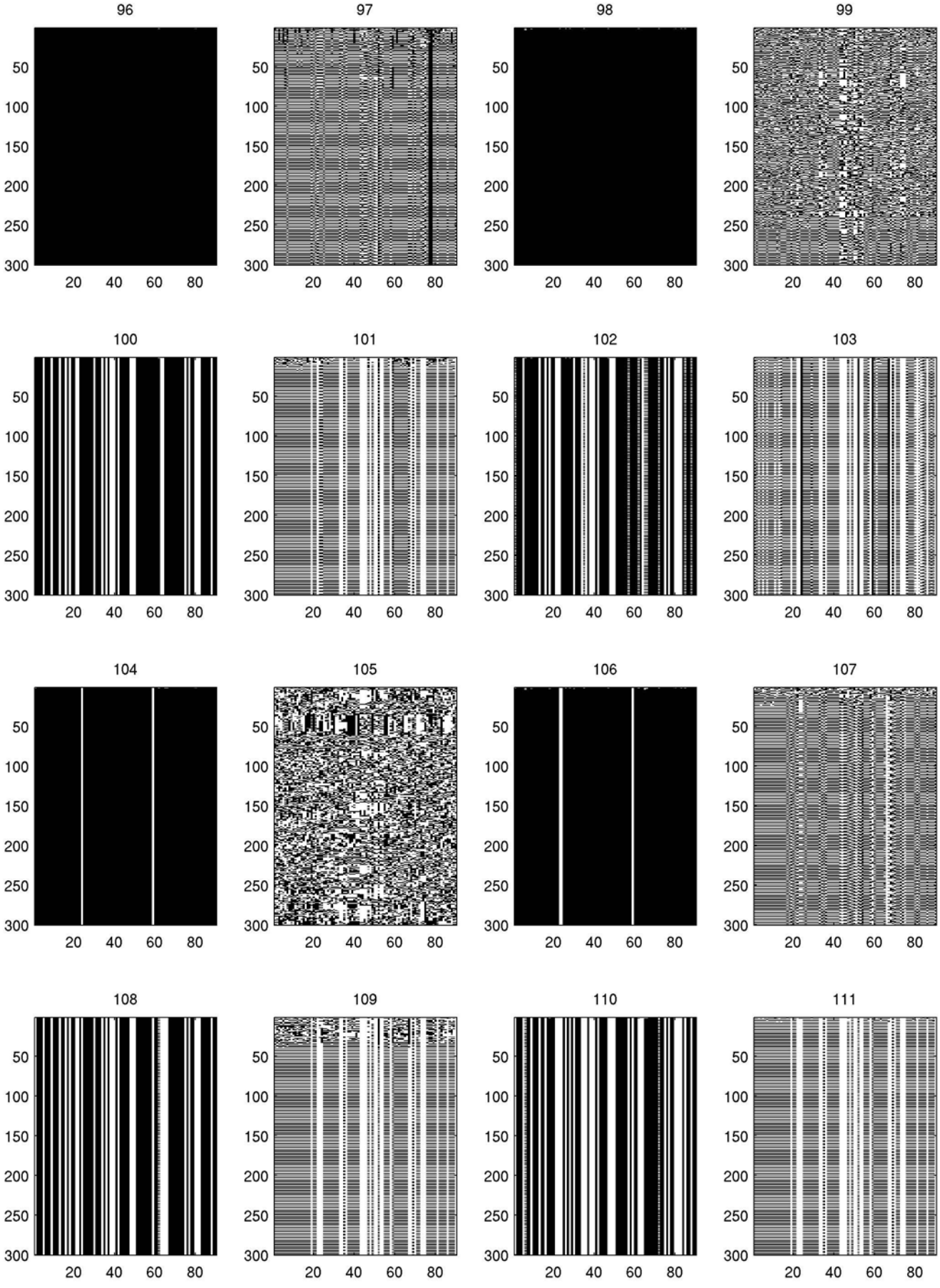
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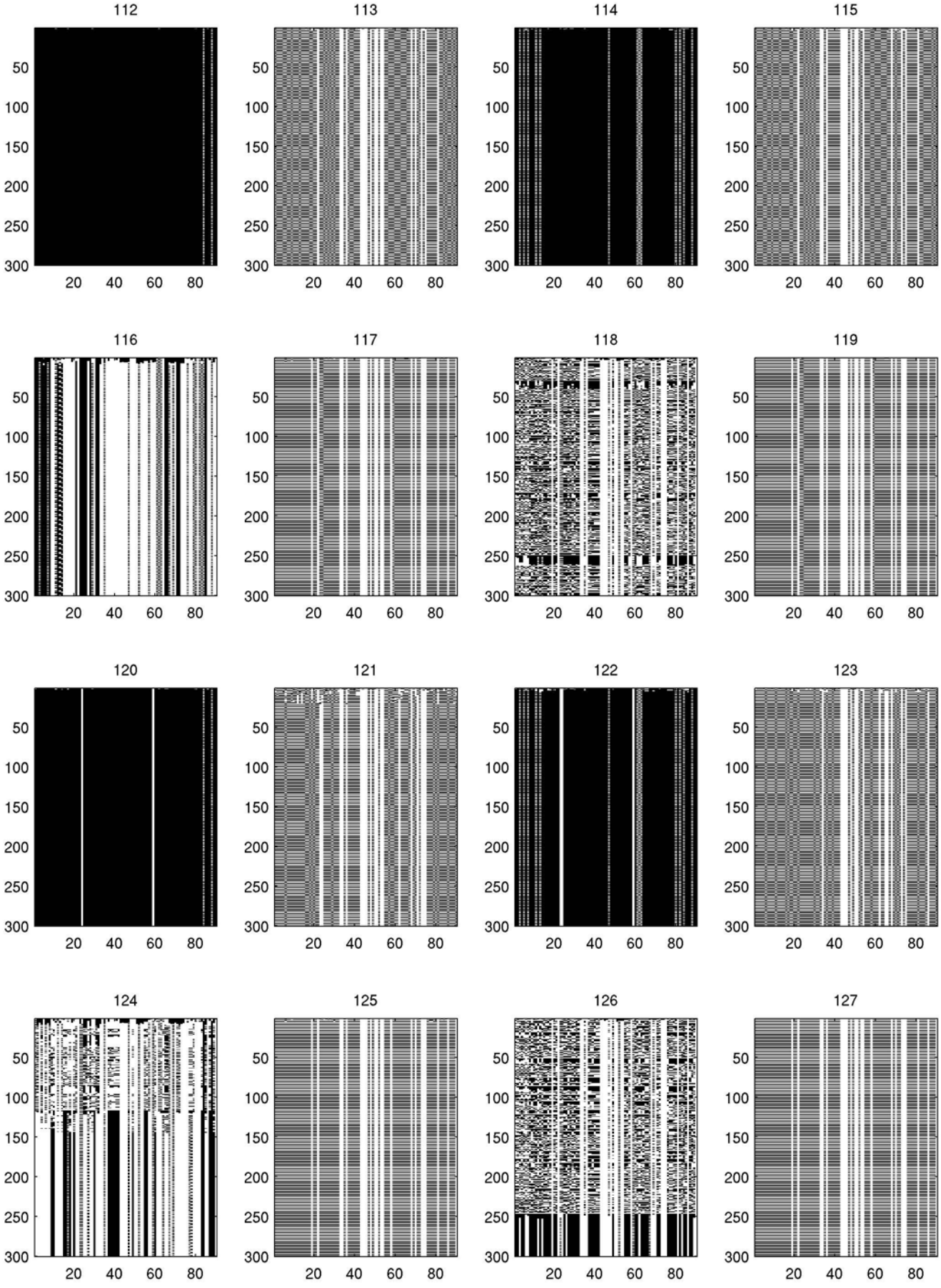
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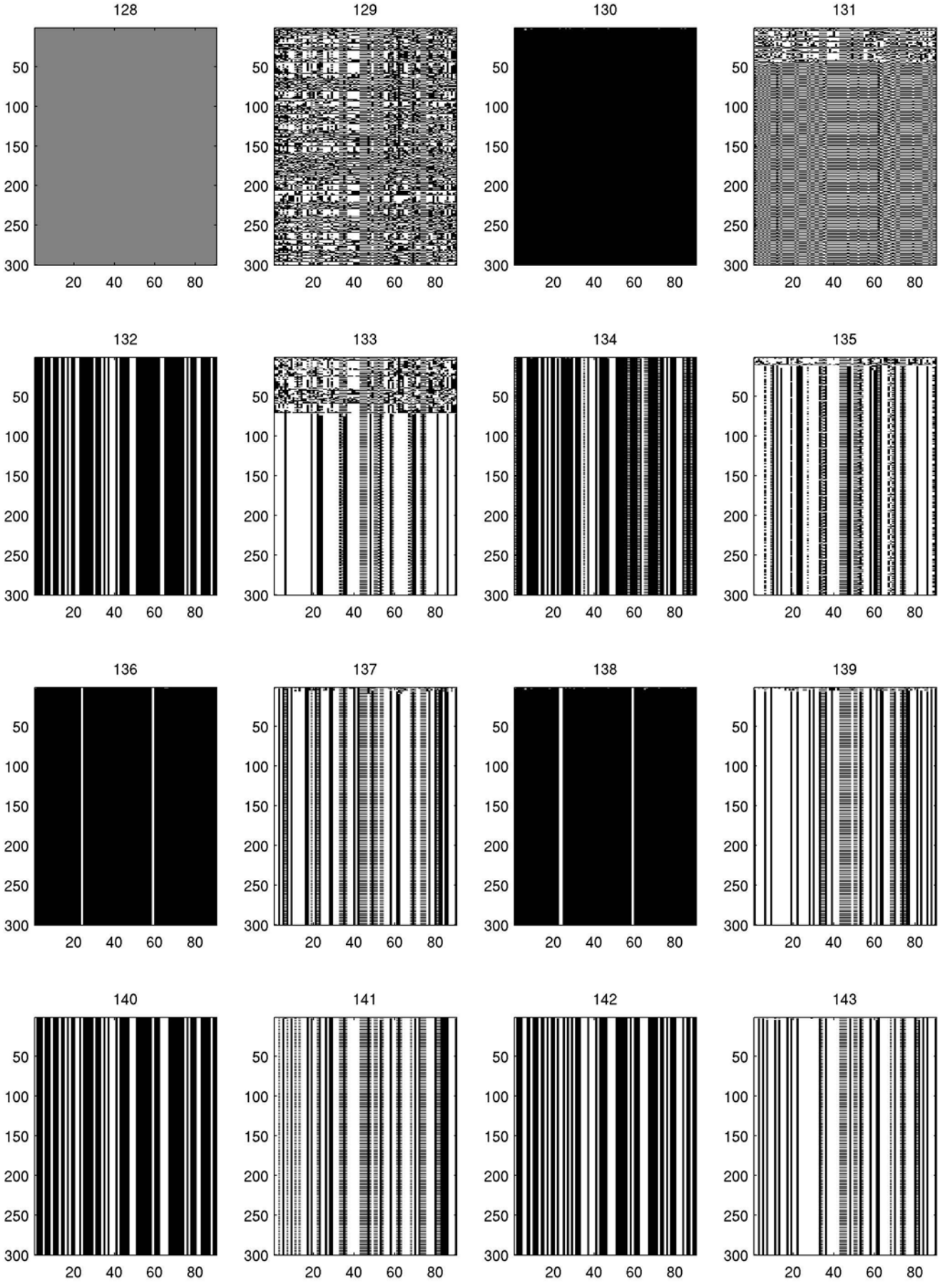
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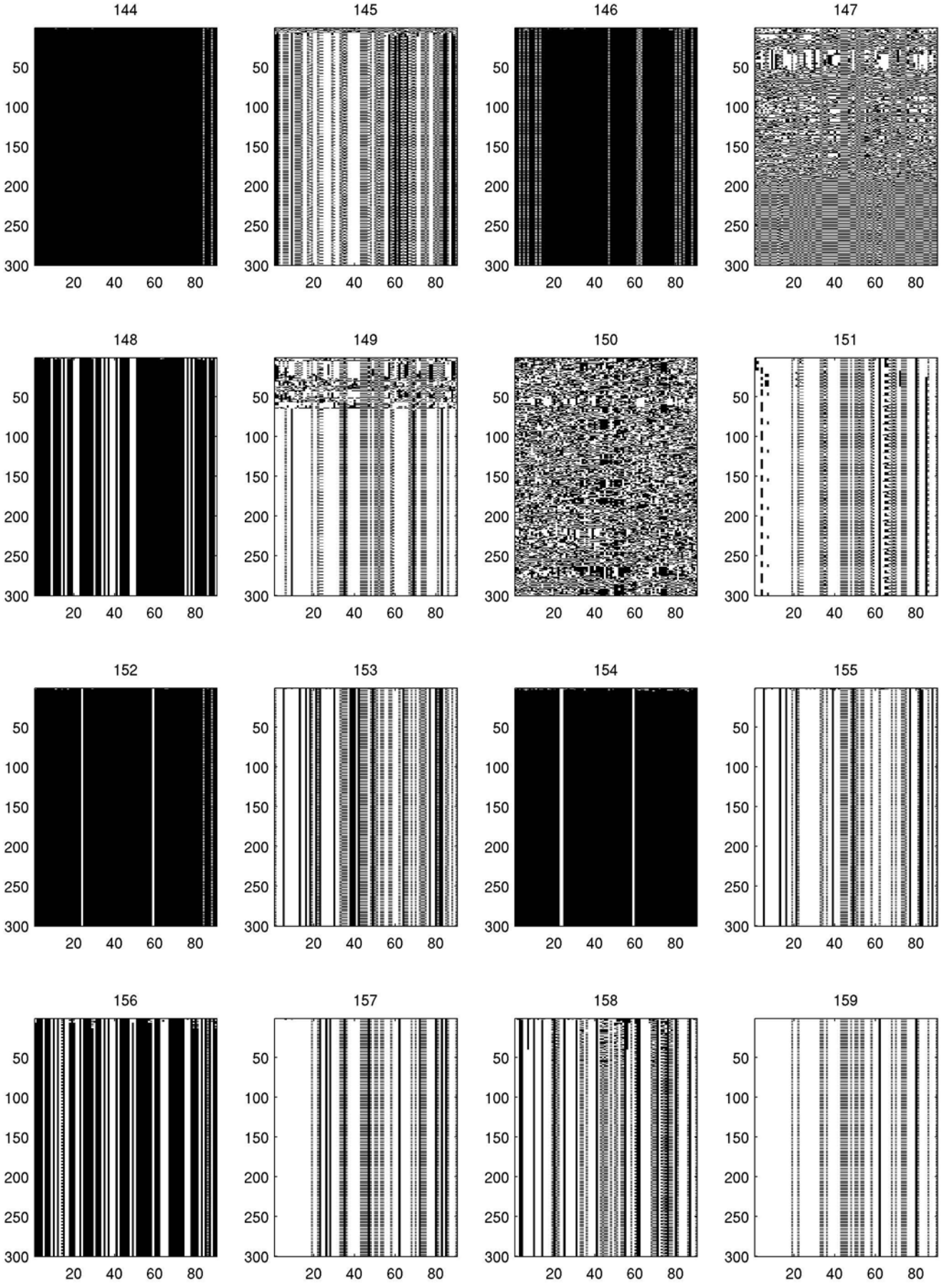
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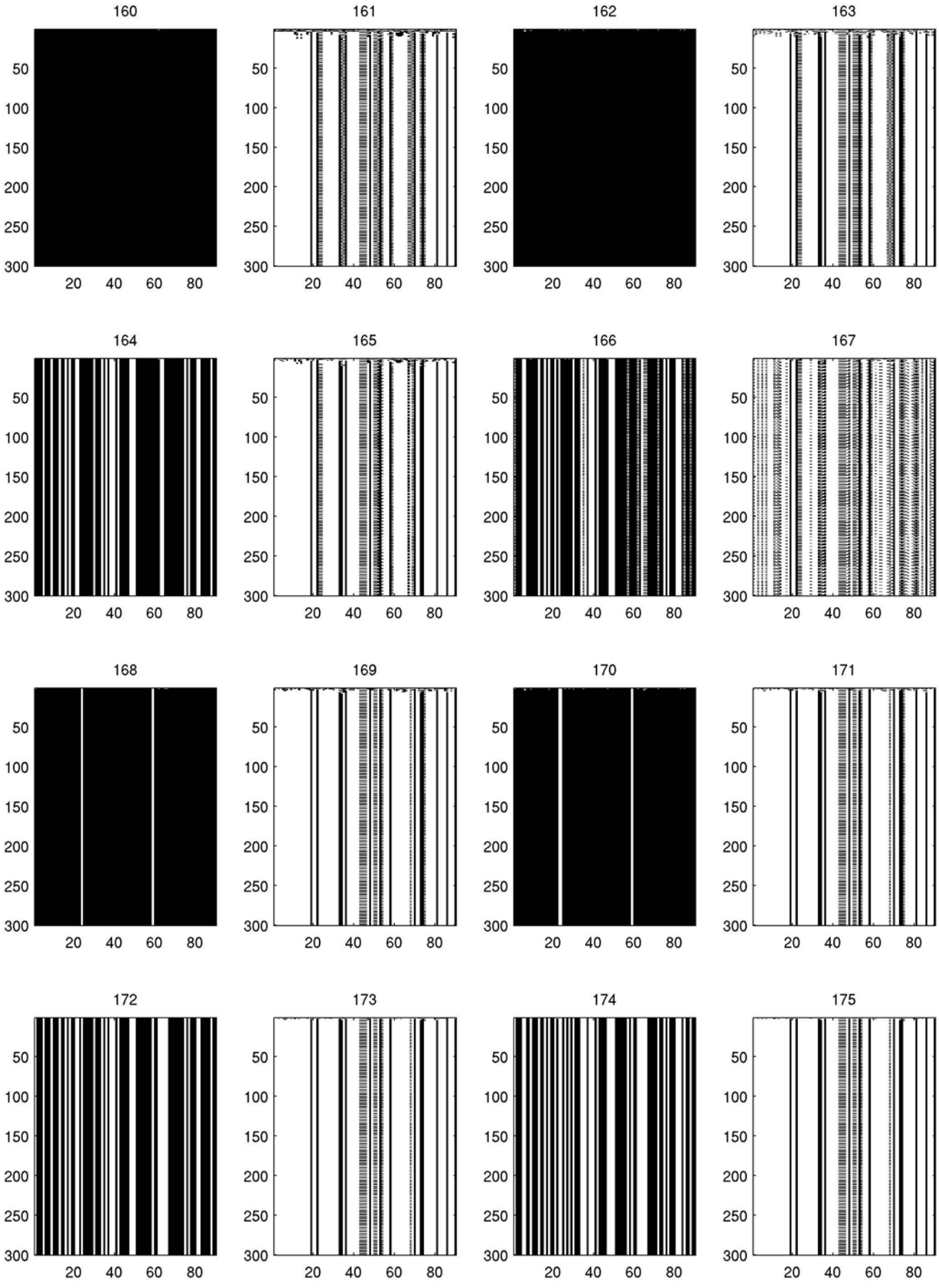
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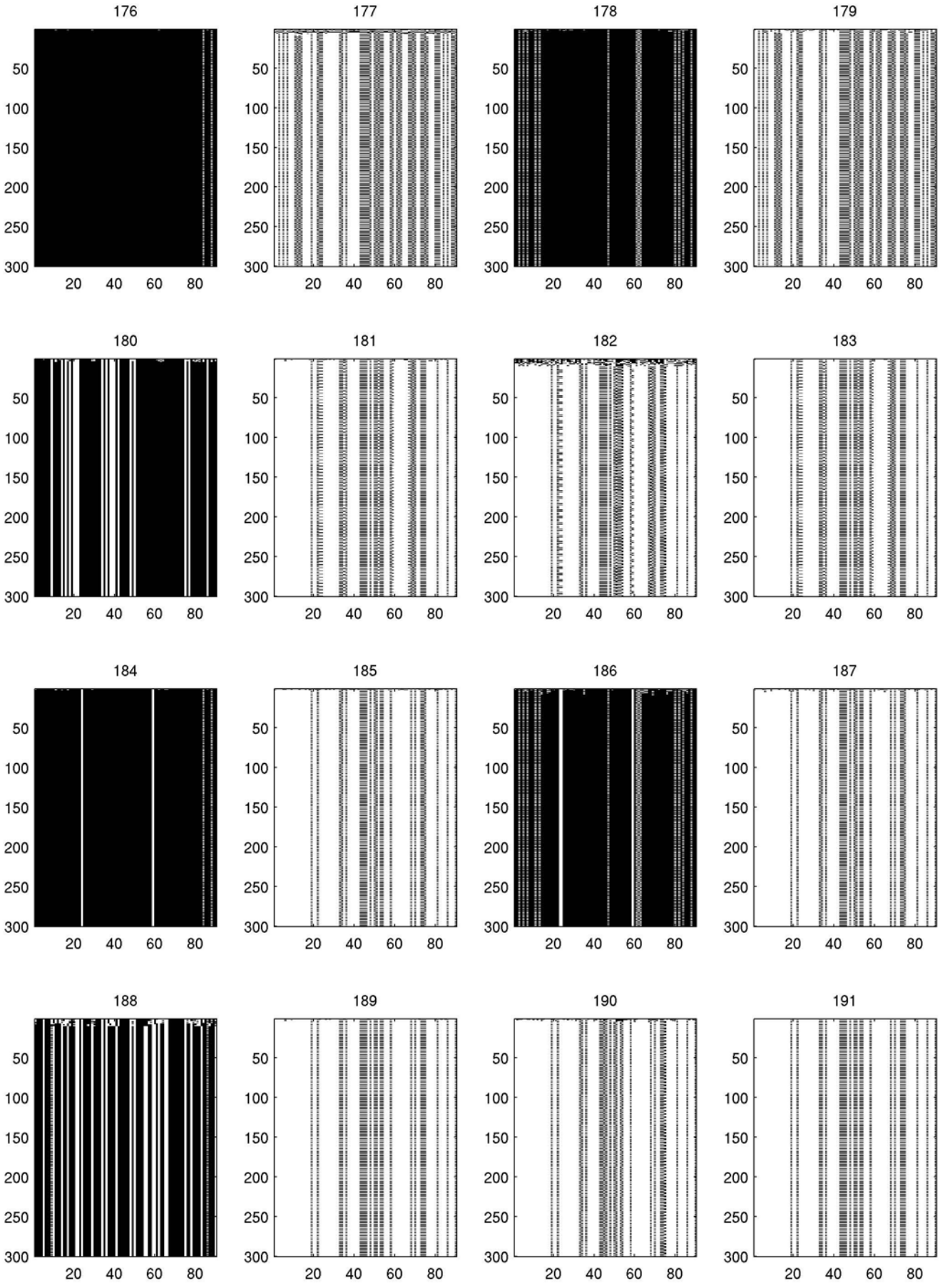
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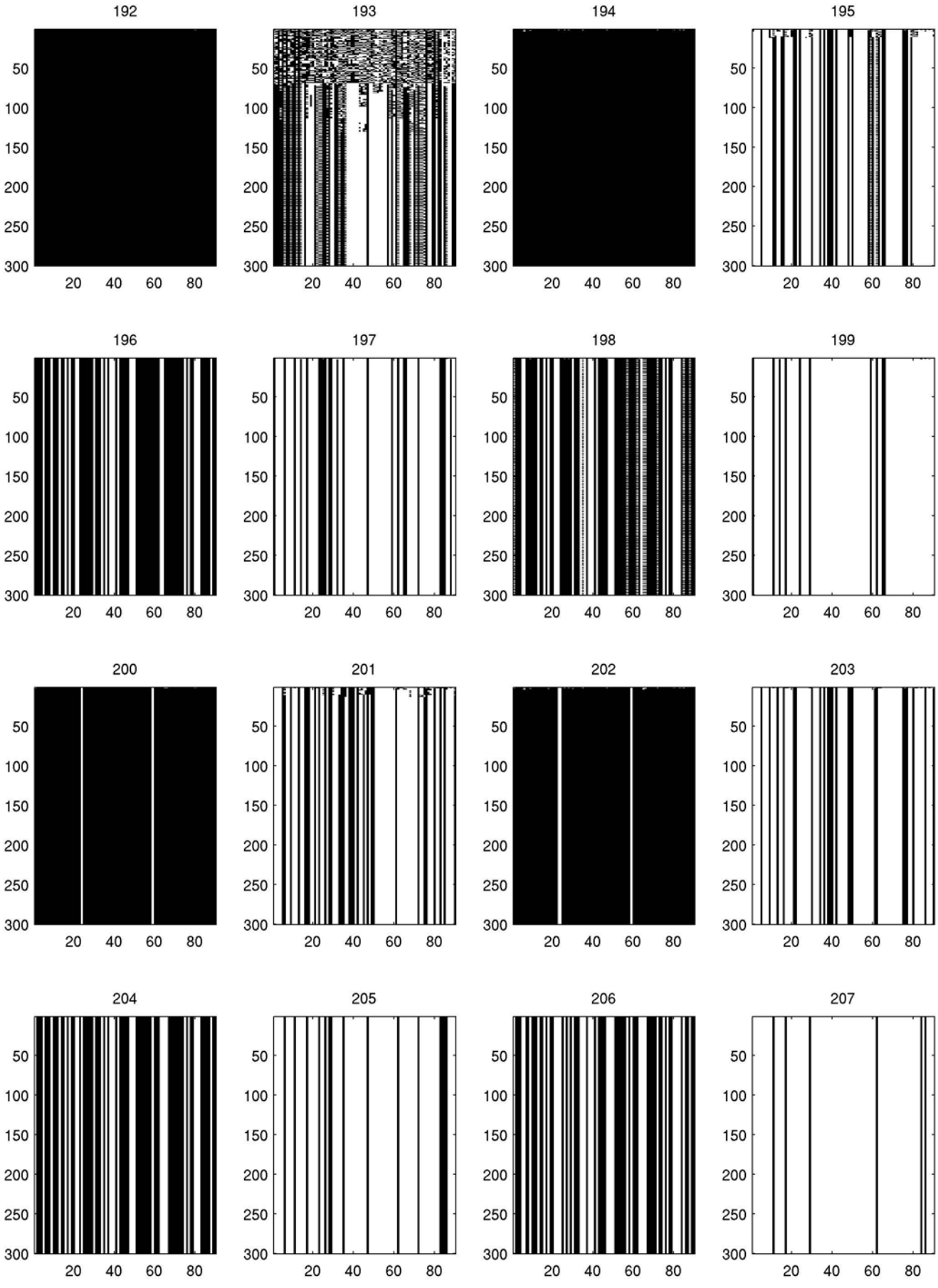
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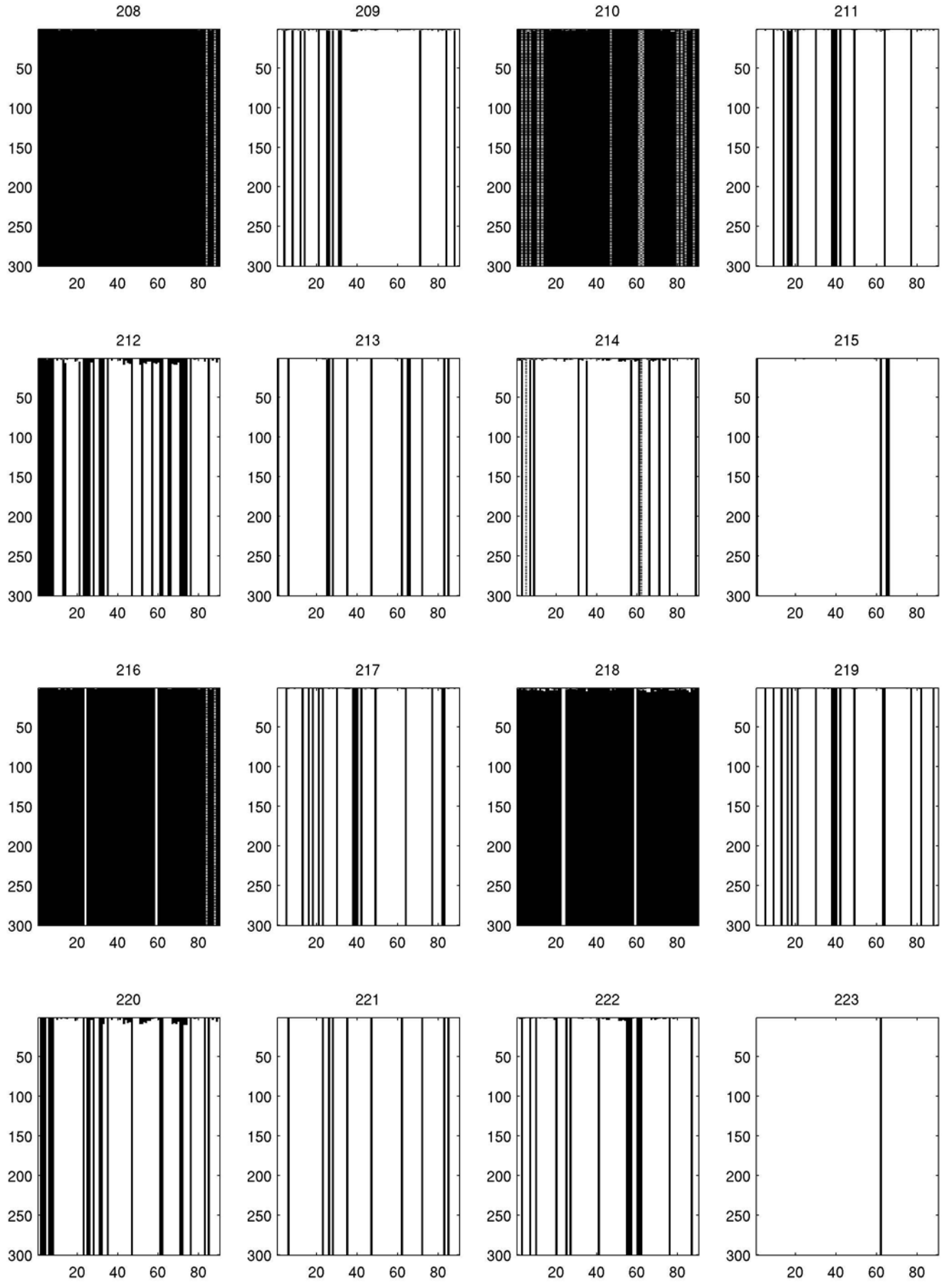
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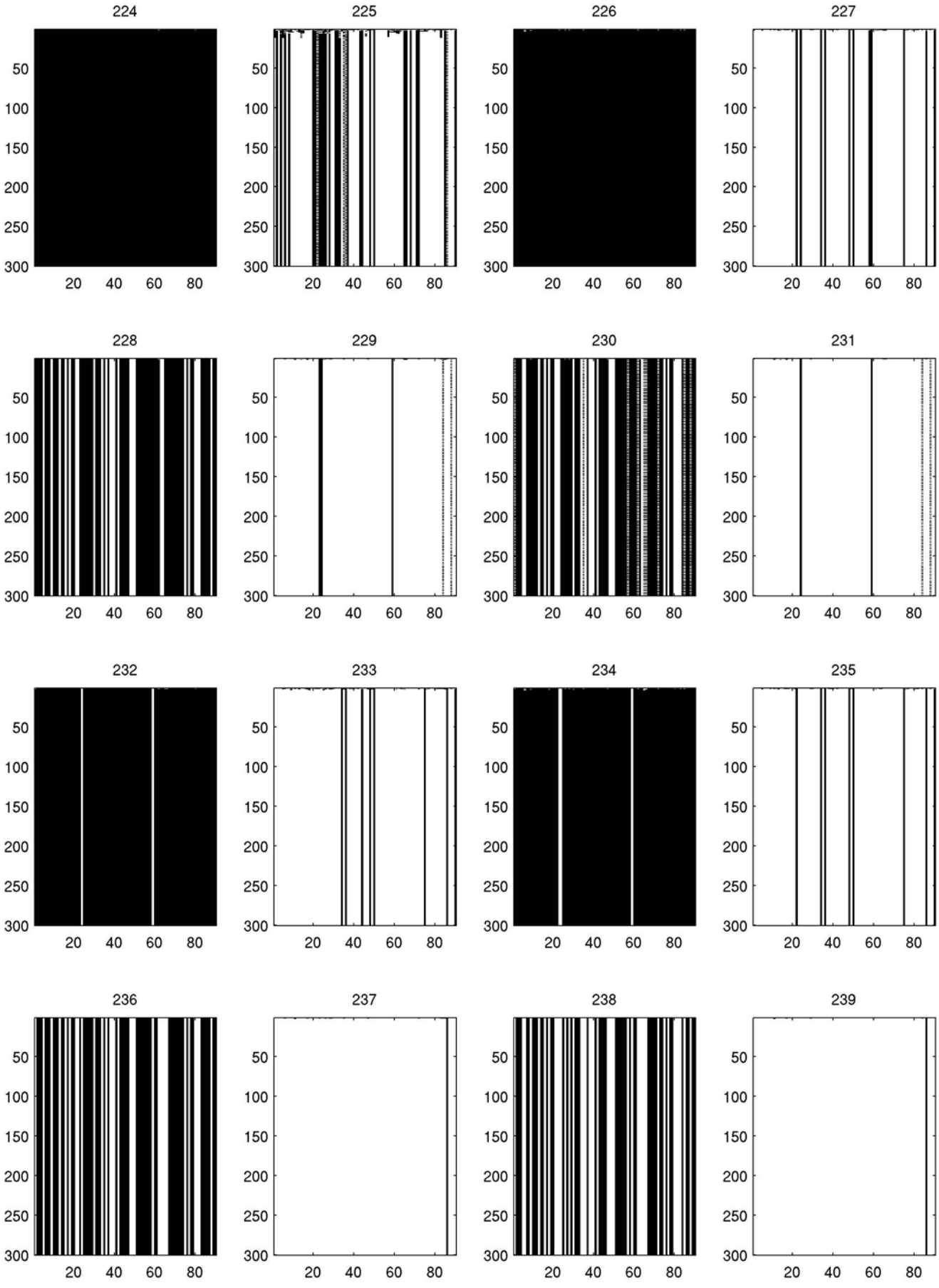
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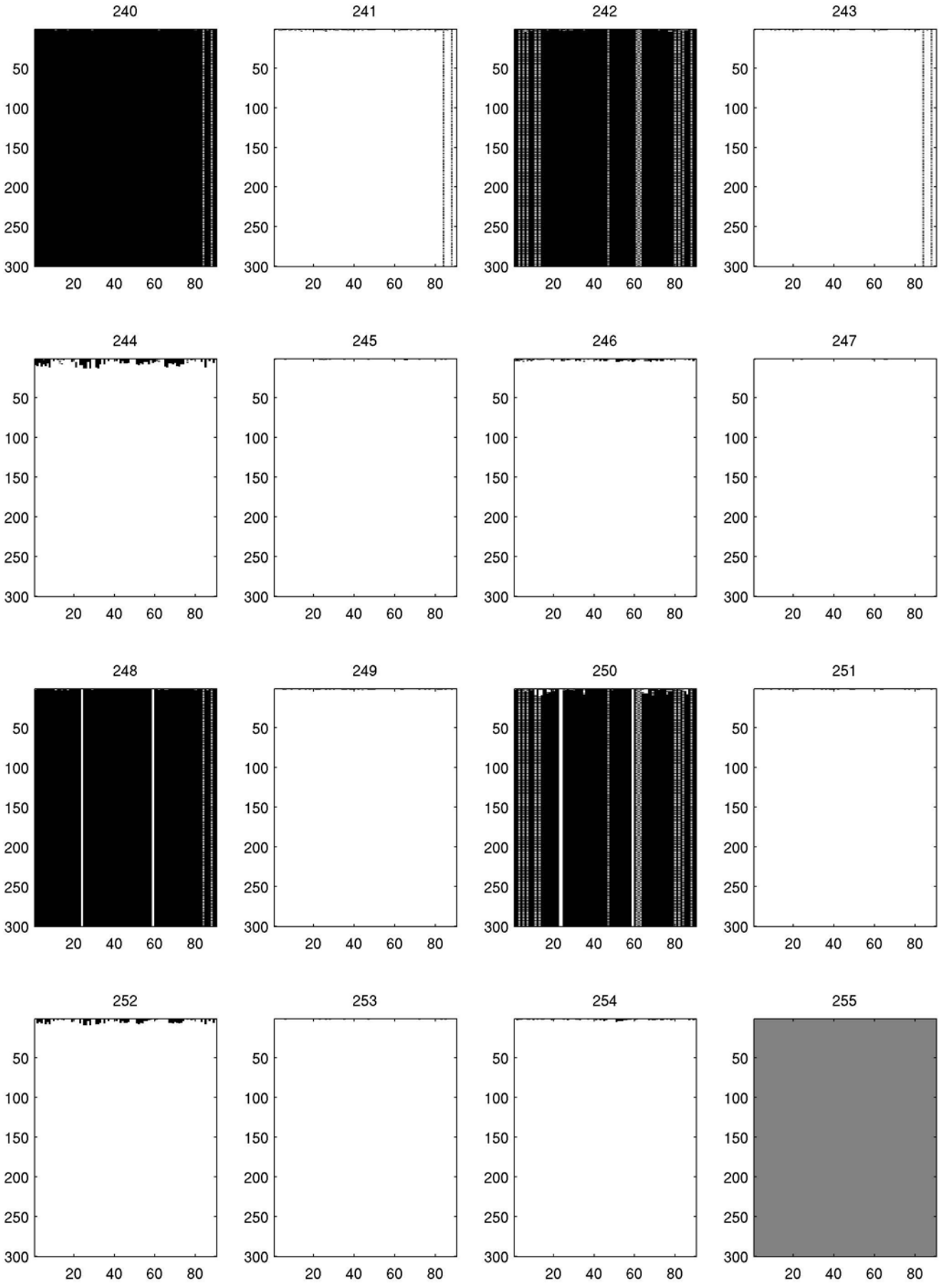
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