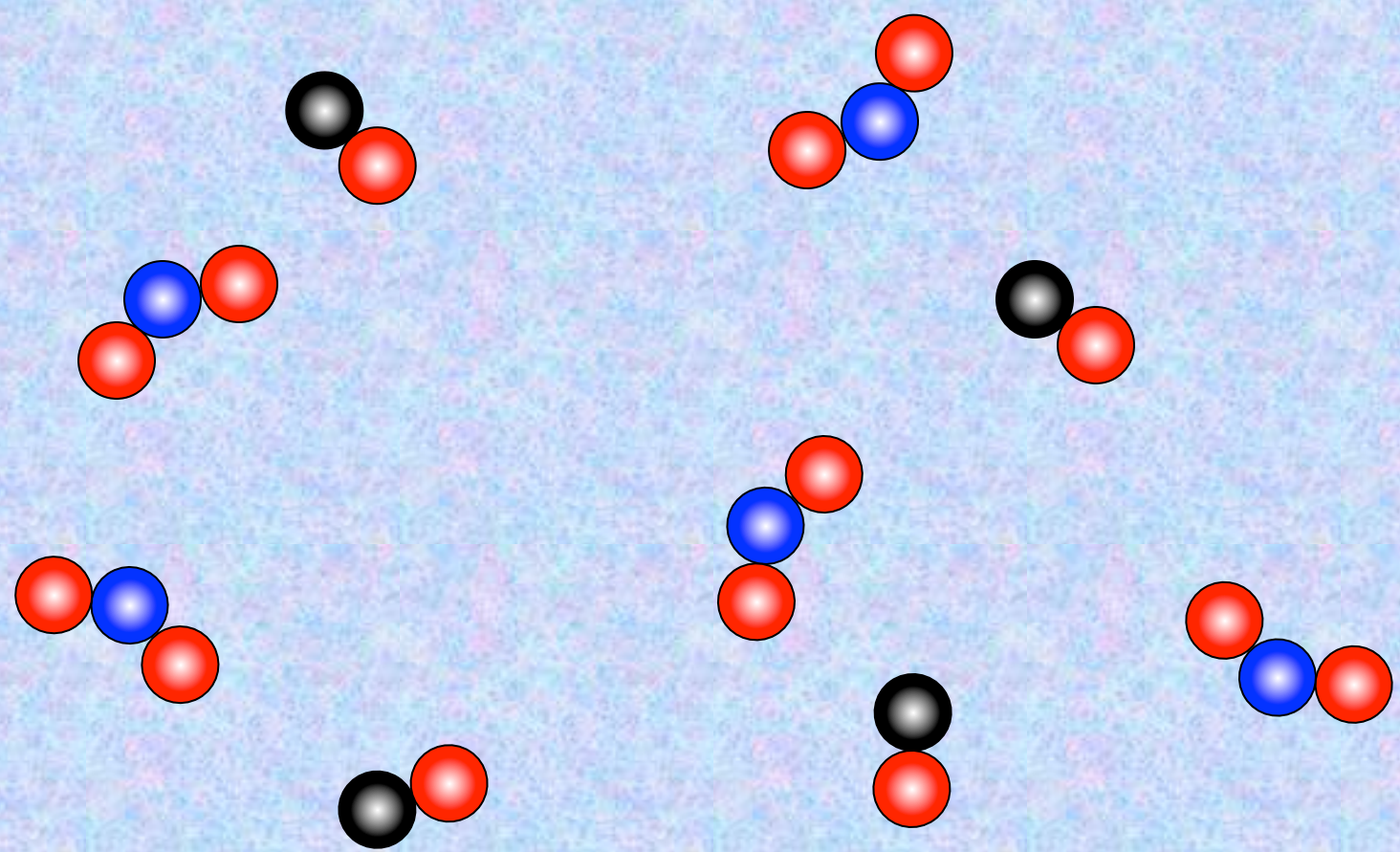
Step 1. $NO_2 + NO_2 \rightarrow NO + NO_3$ (slow)

Step 2. $NO_3 + CO \rightarrow NO_2 + CO_2$ (fast)

Overall: $NO_2 + CO \rightarrow NO + CO_2$



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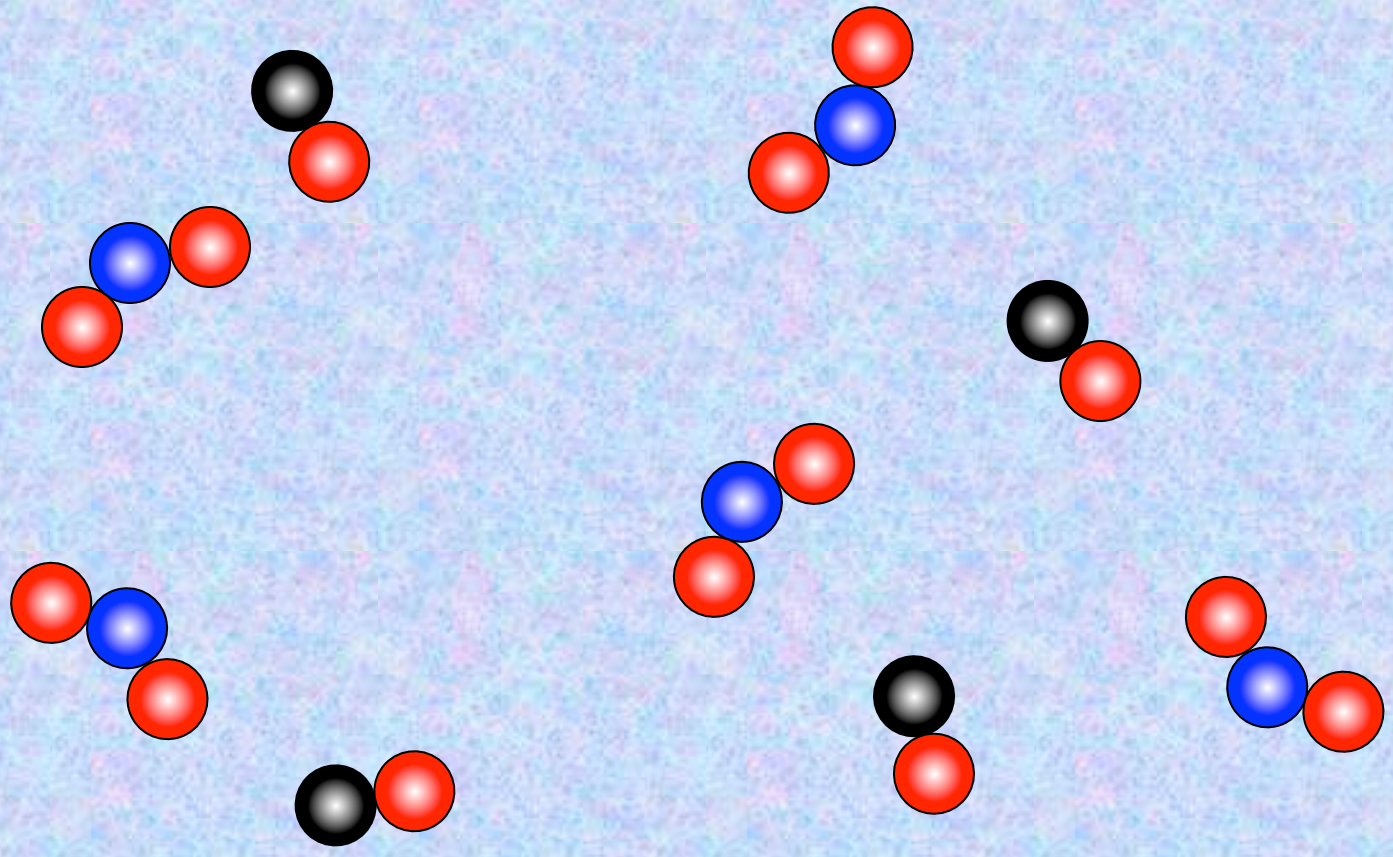

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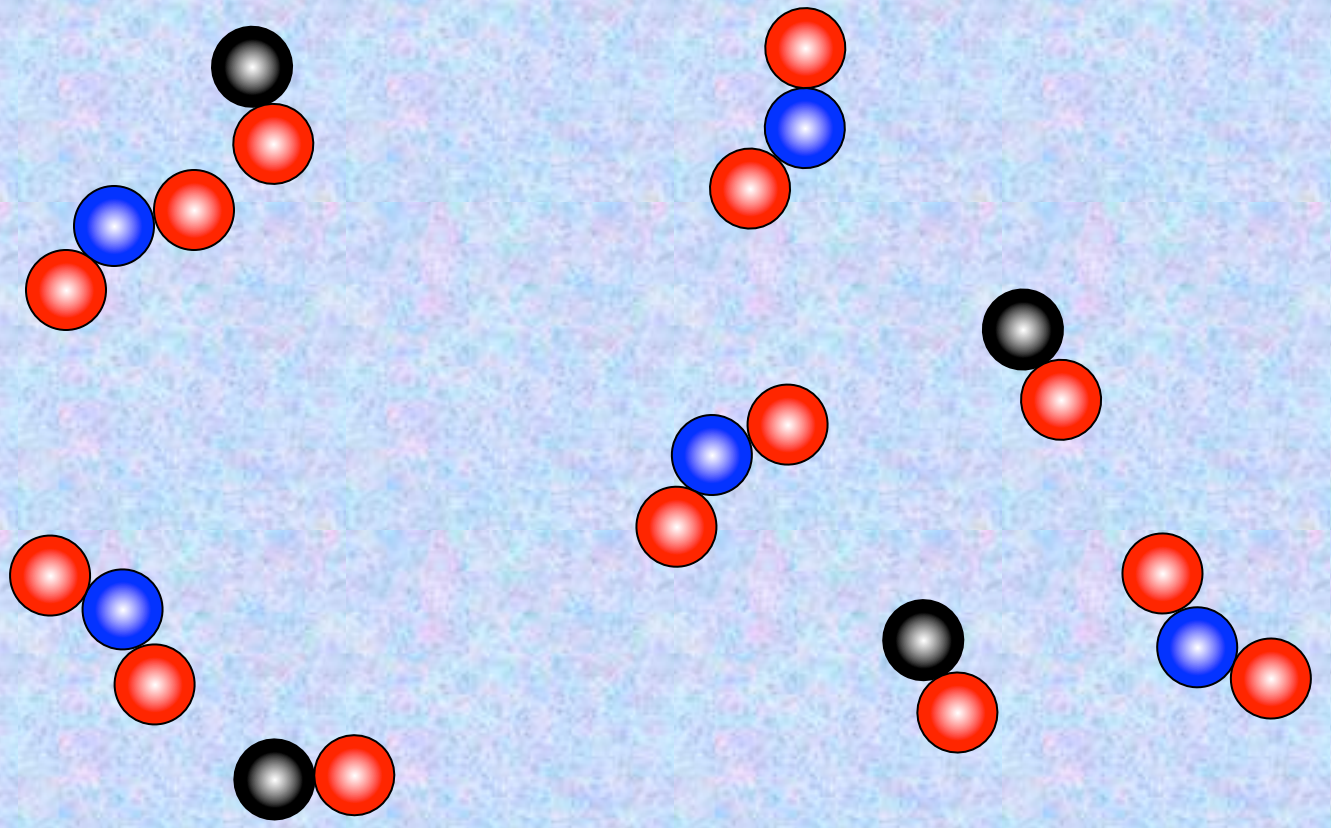

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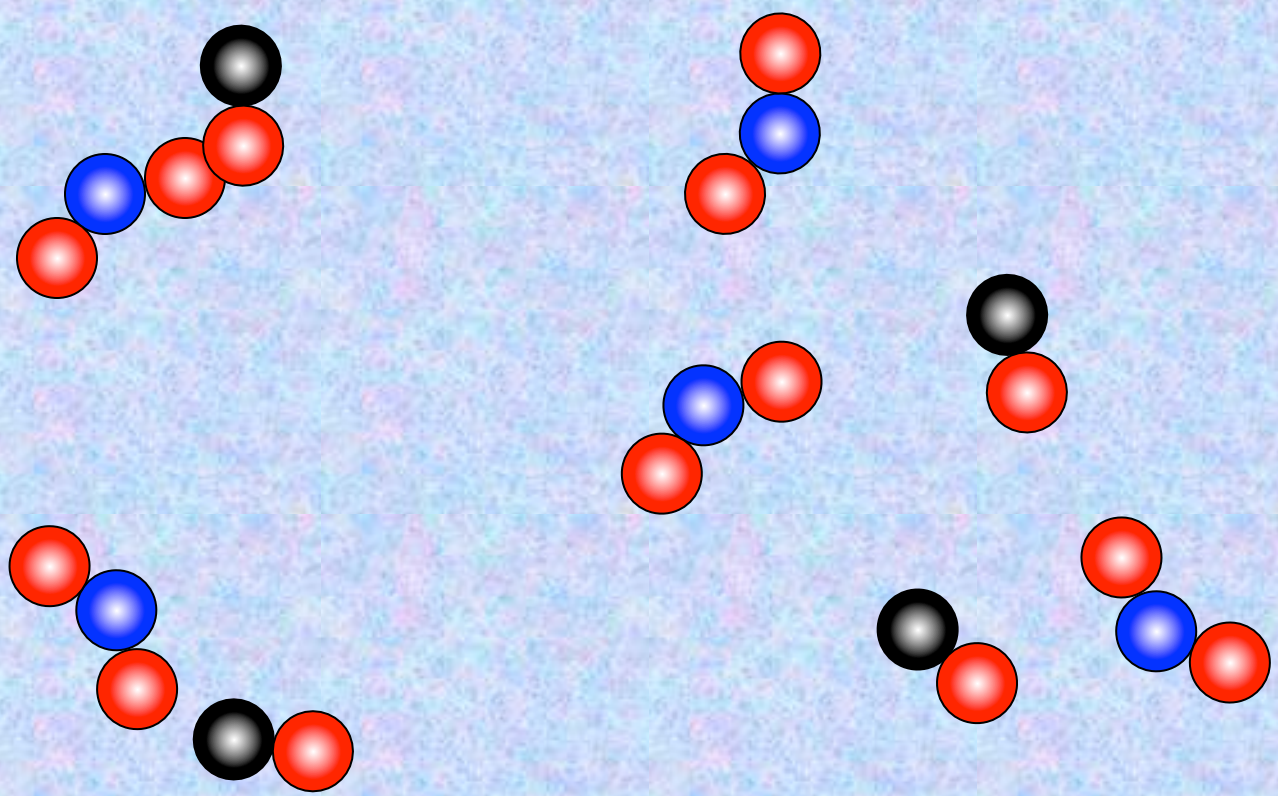

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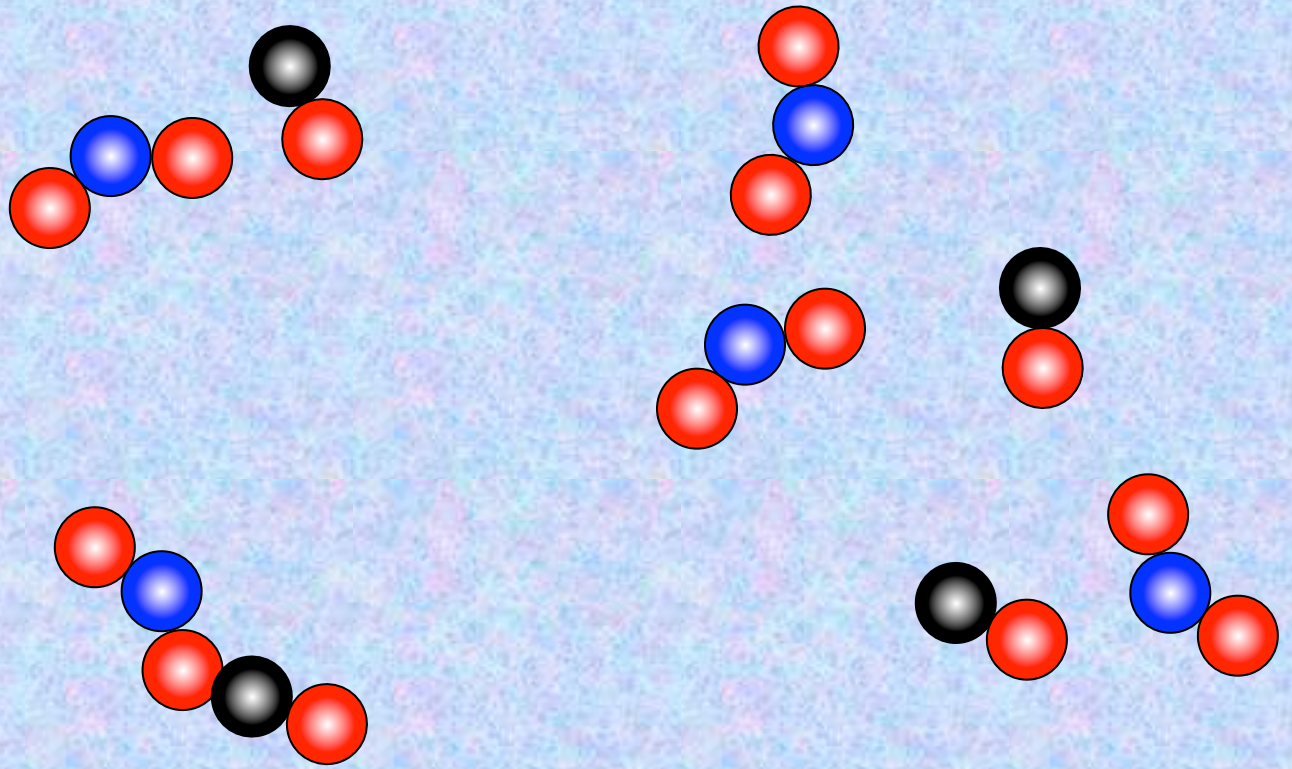

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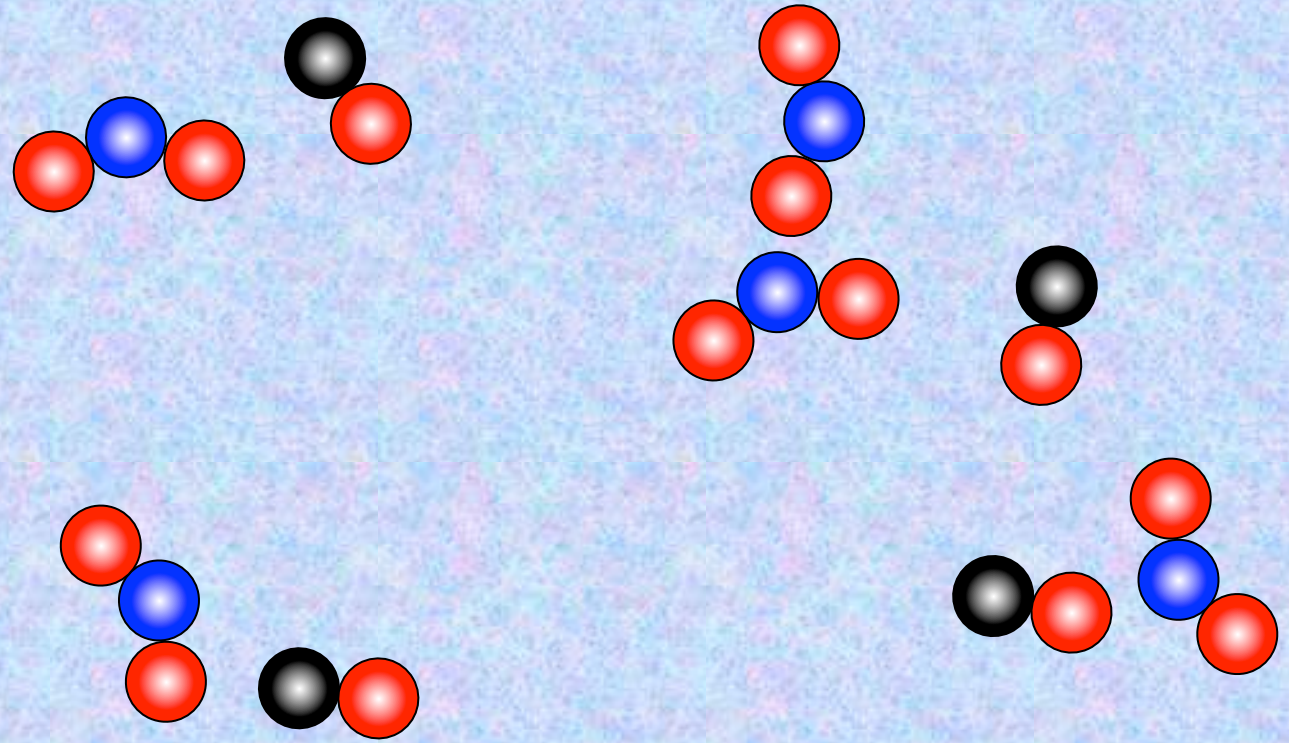

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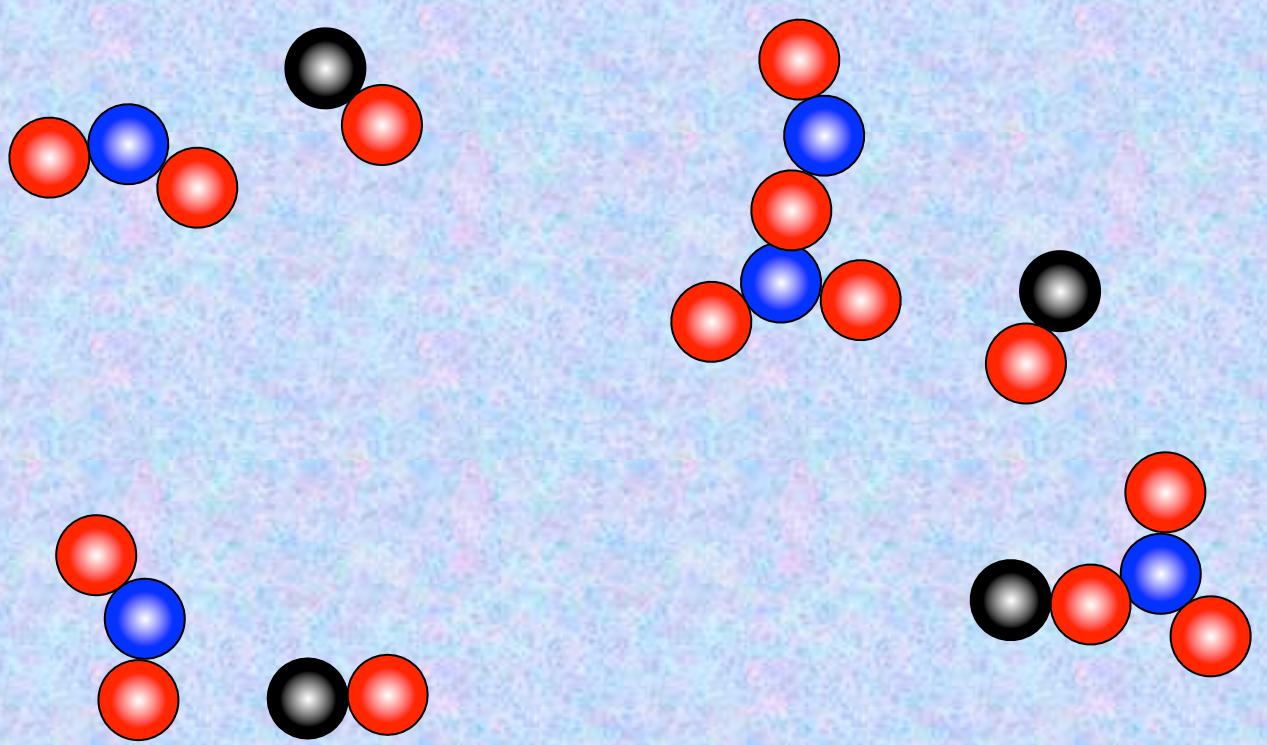

Rate = $k[NO_2]^2$

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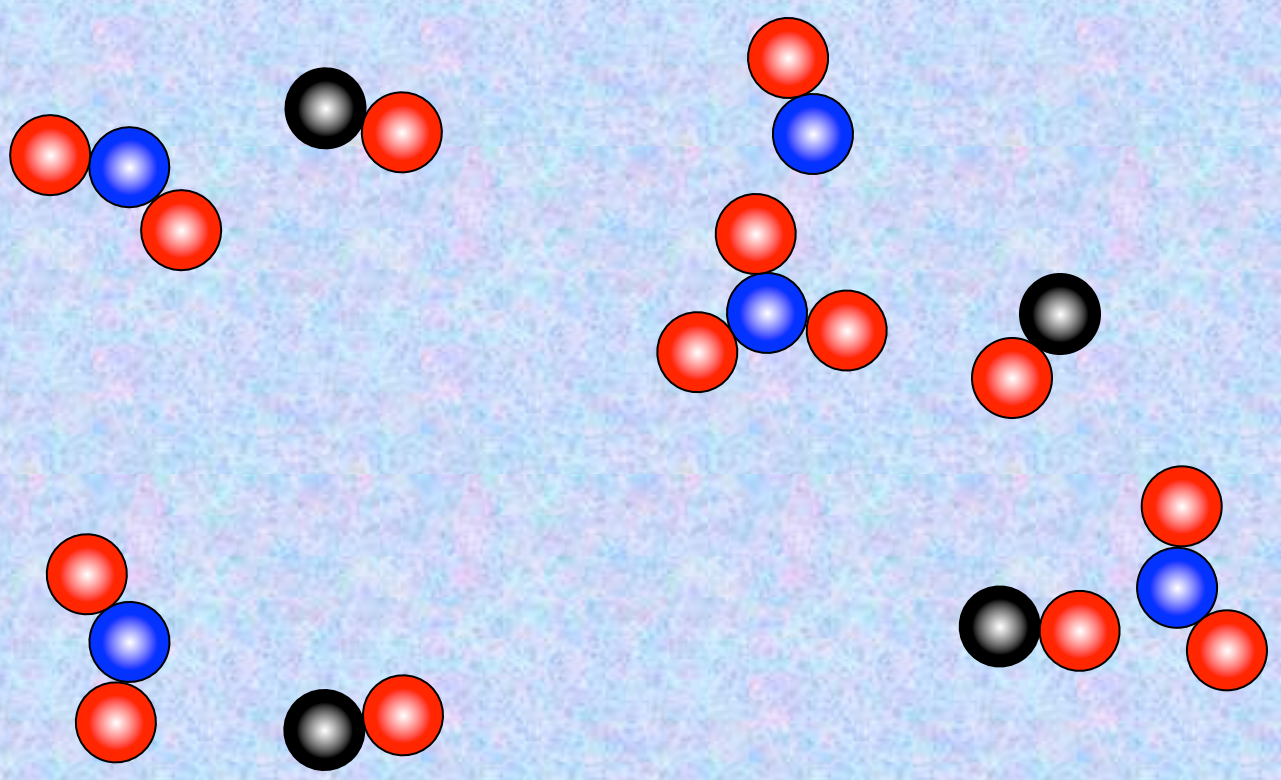
Overall: $NO_2 + CO \rightarrow NO + CO_2$



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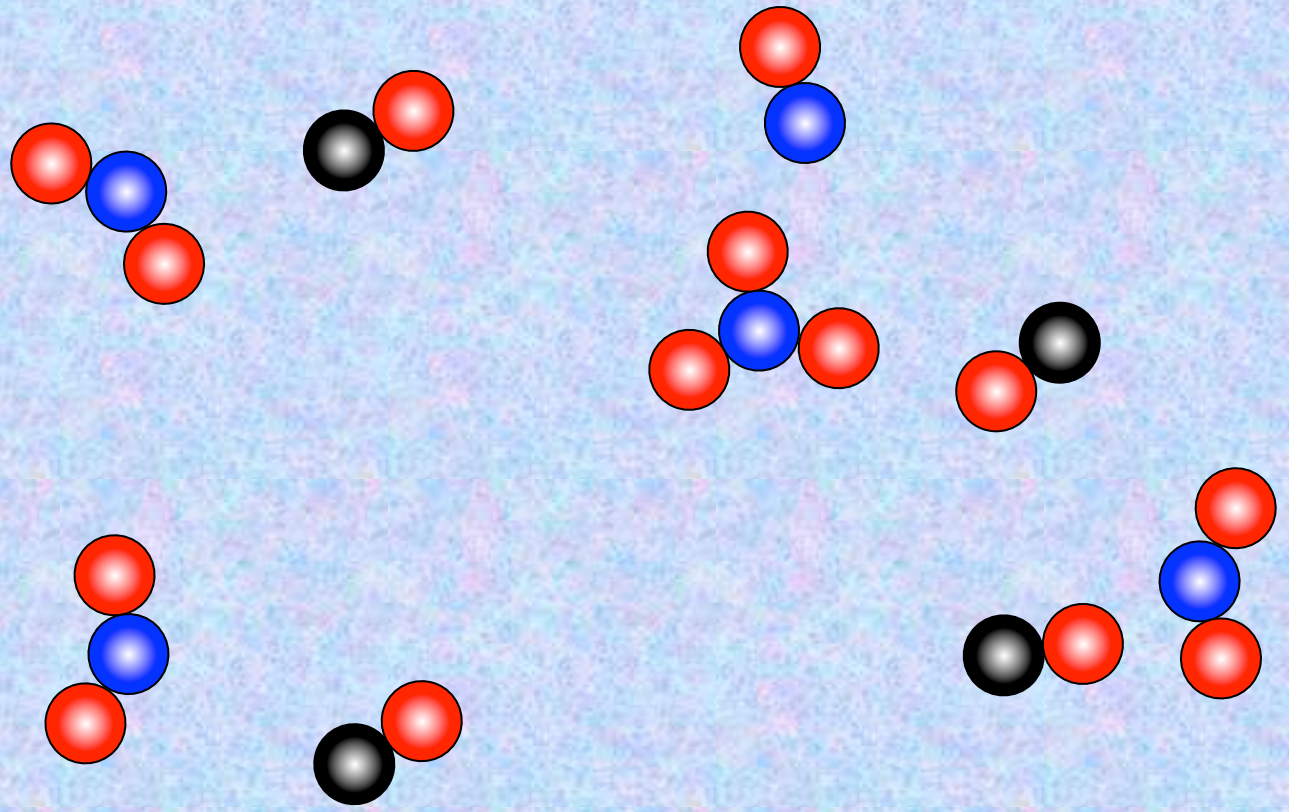

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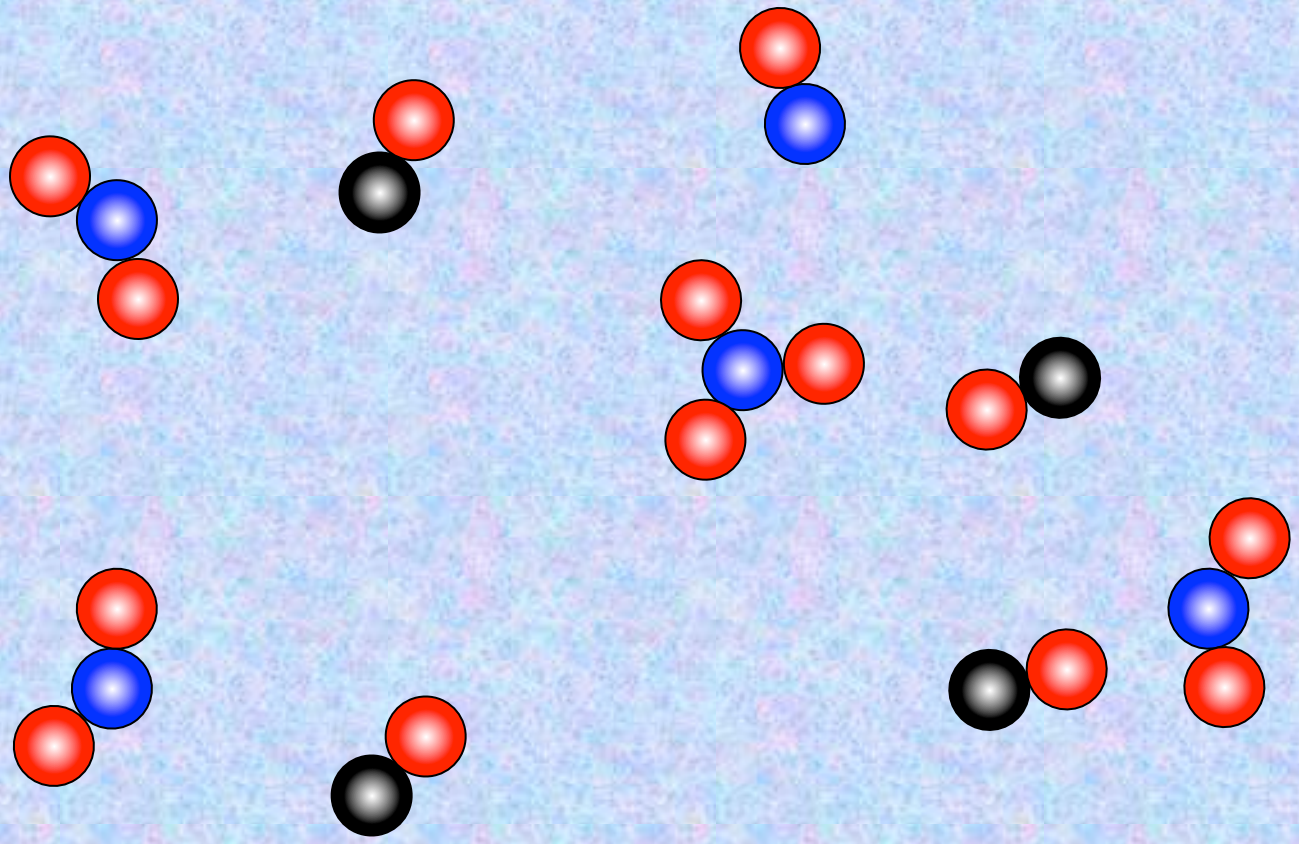

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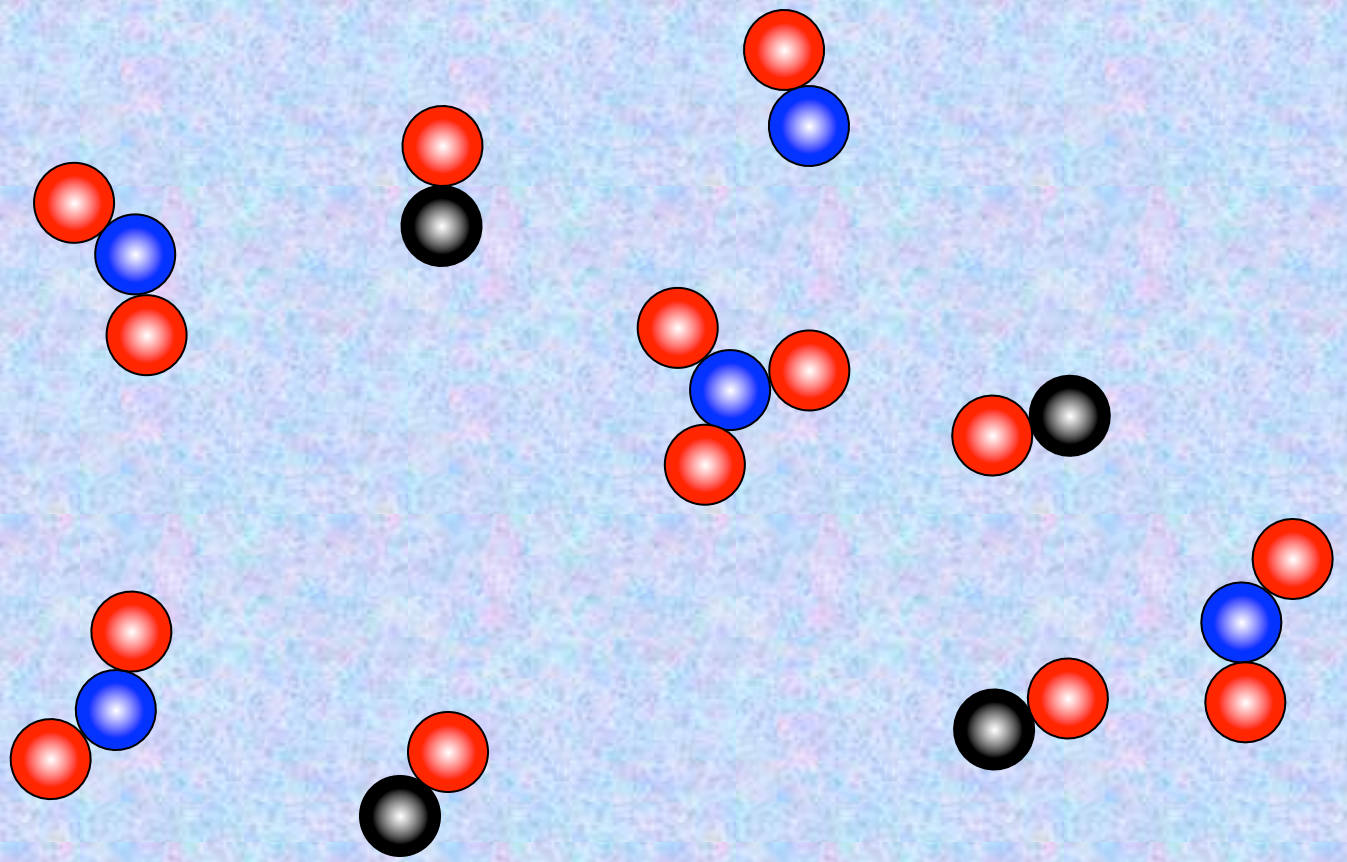

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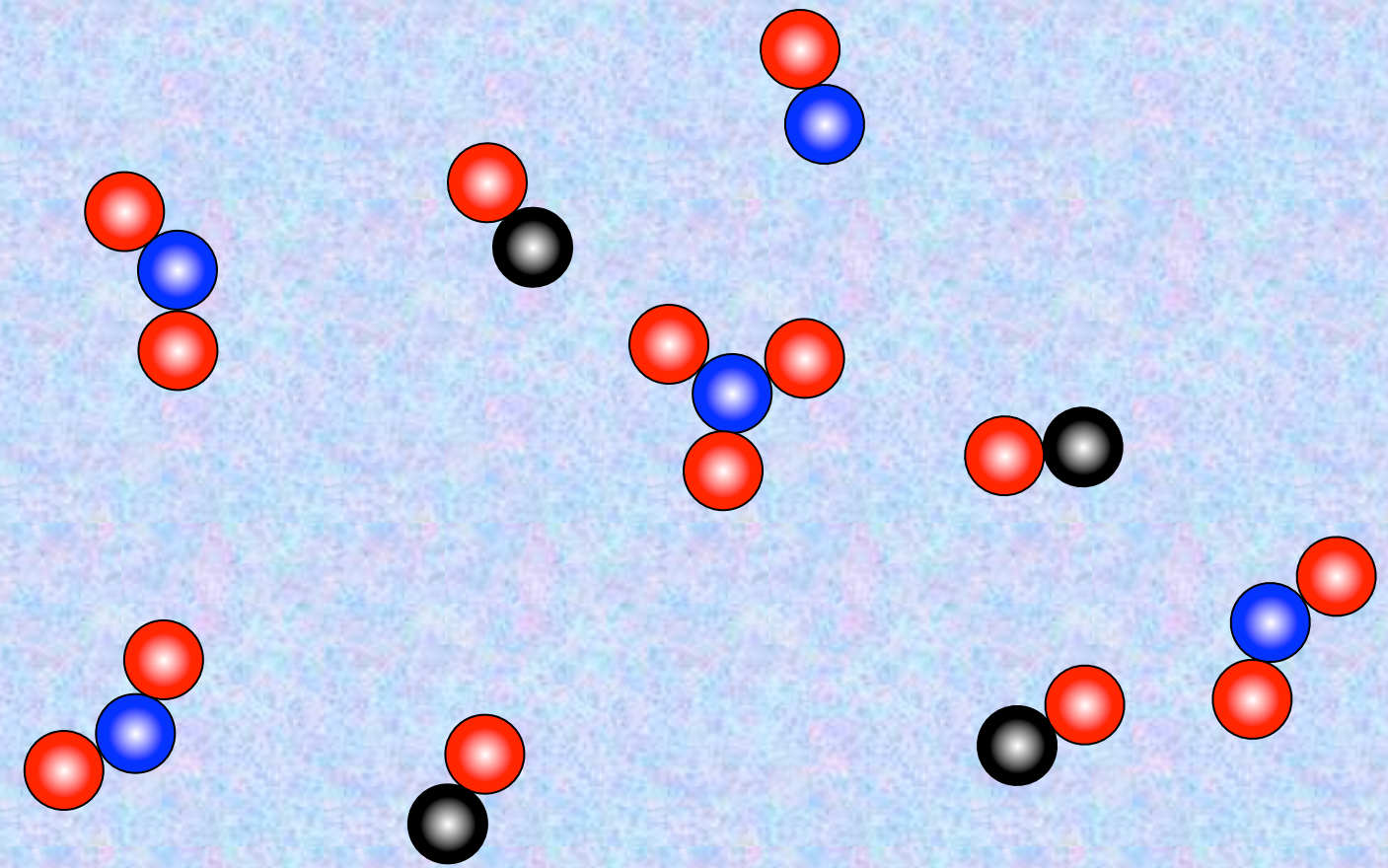

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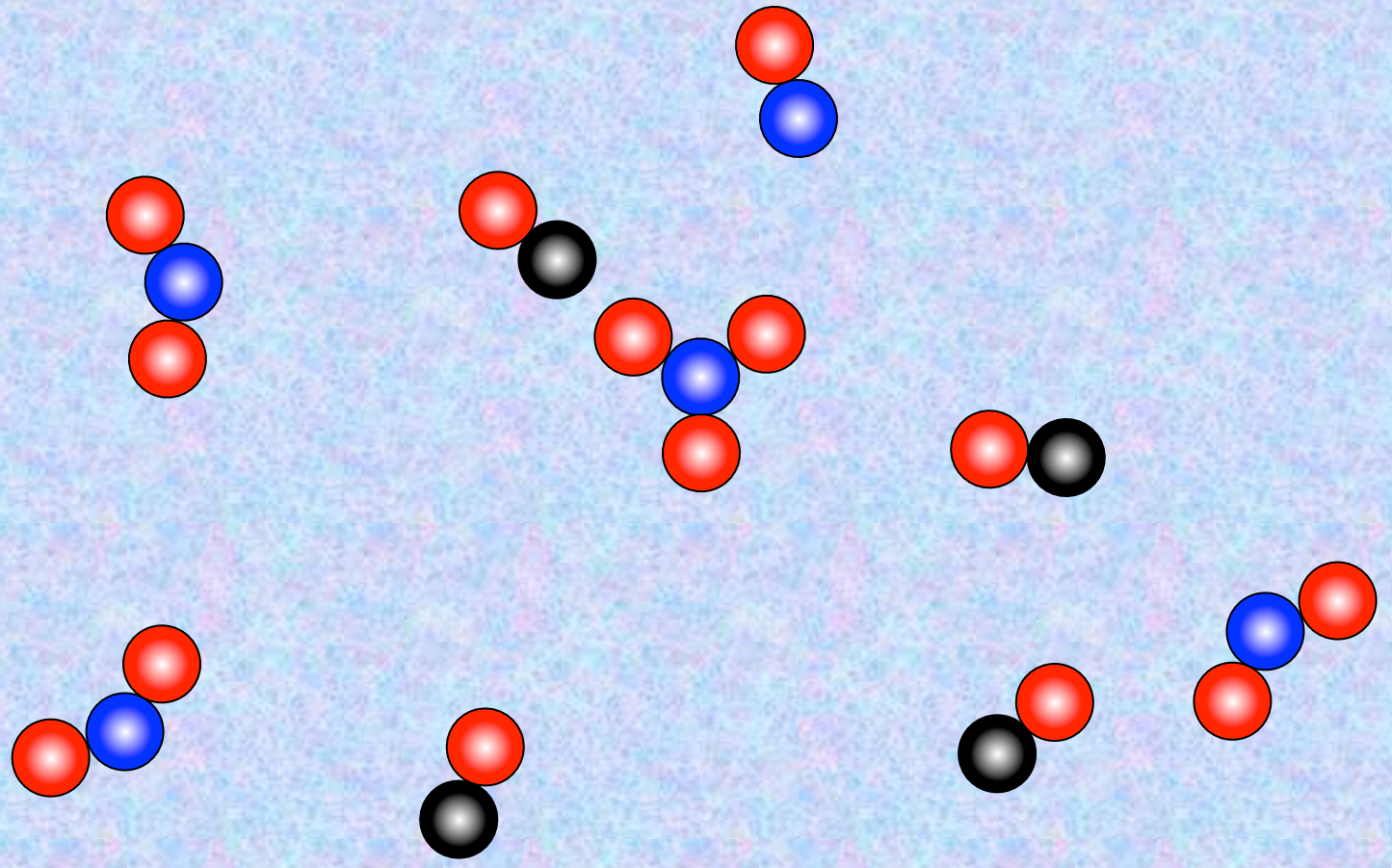

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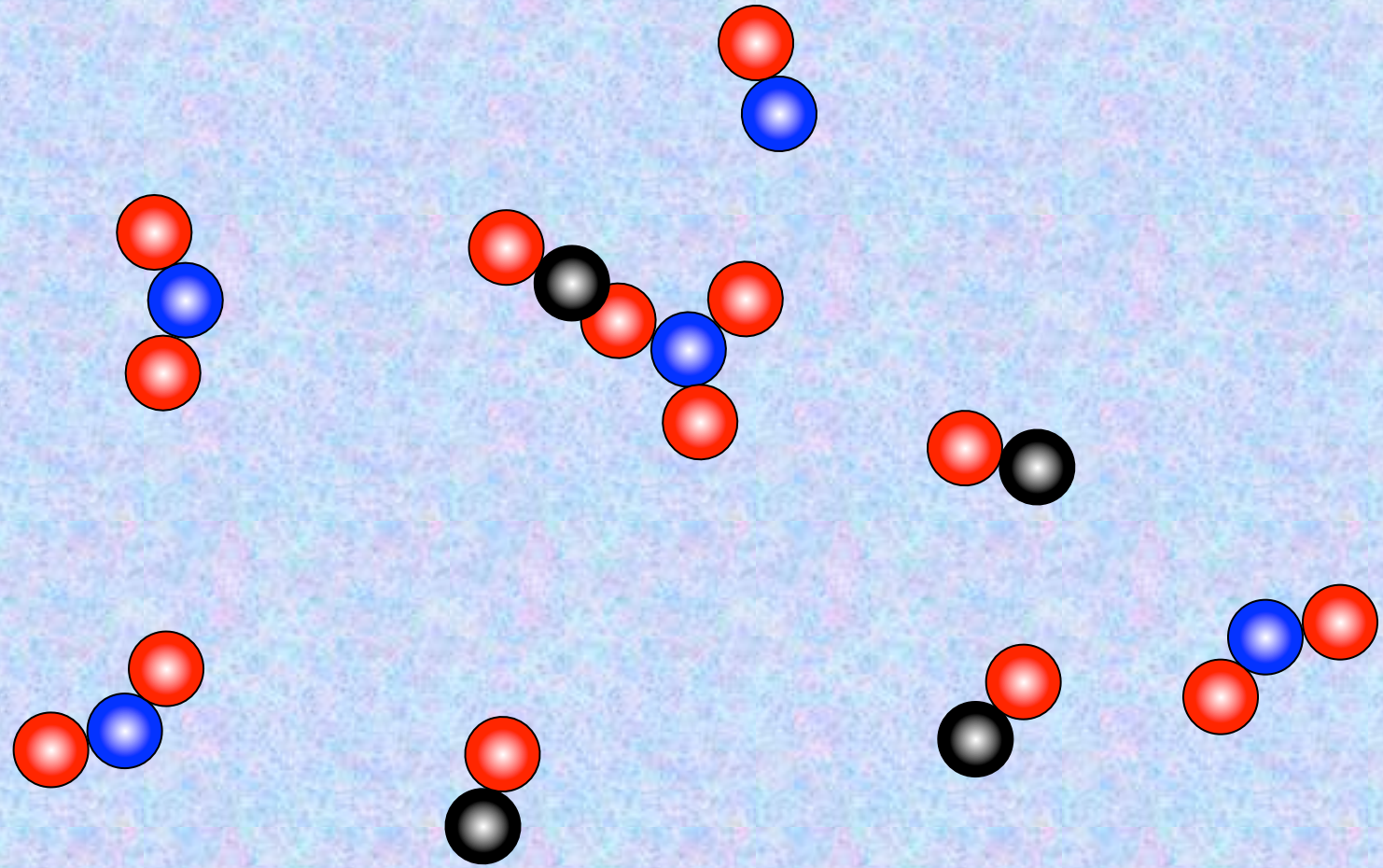

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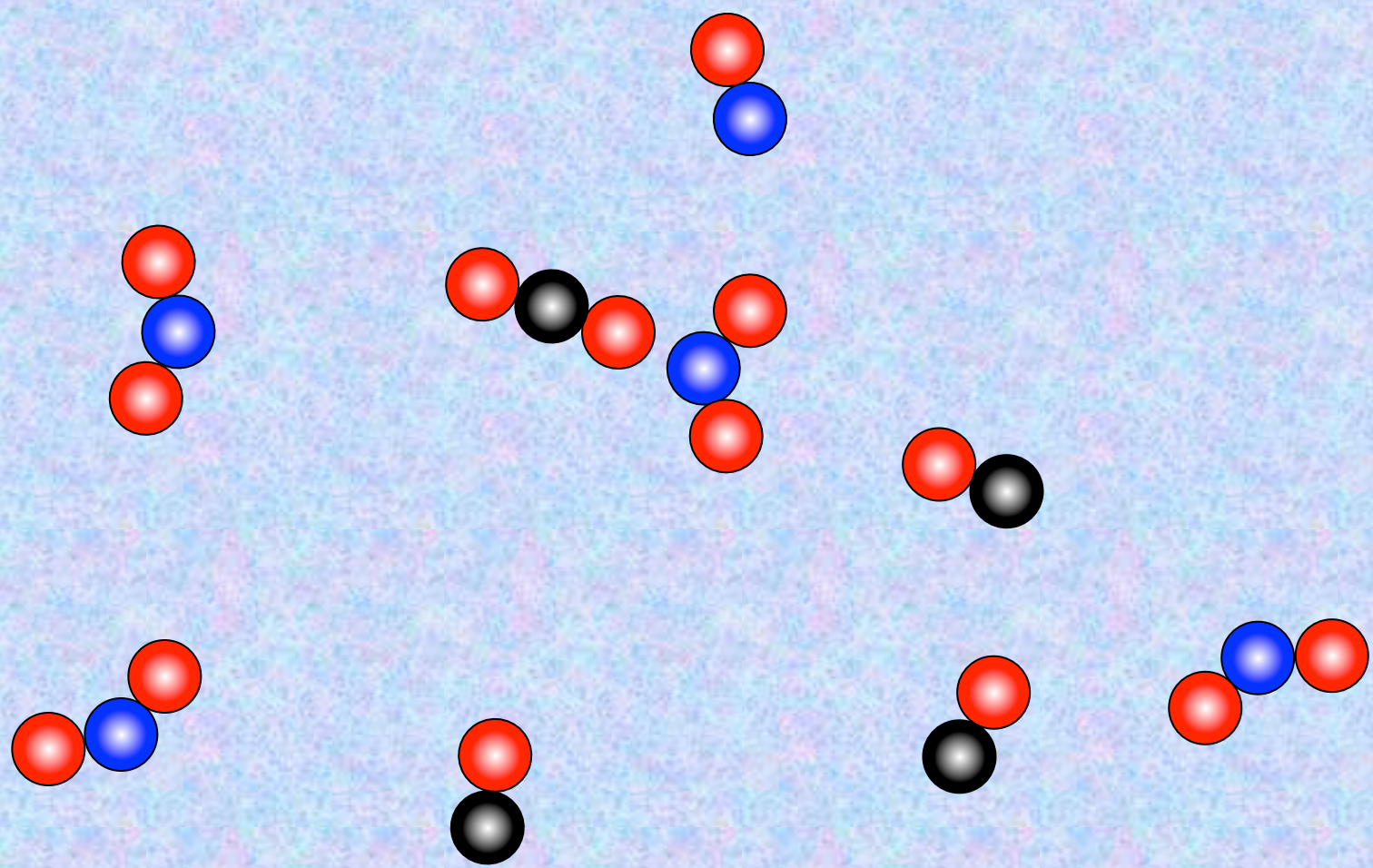

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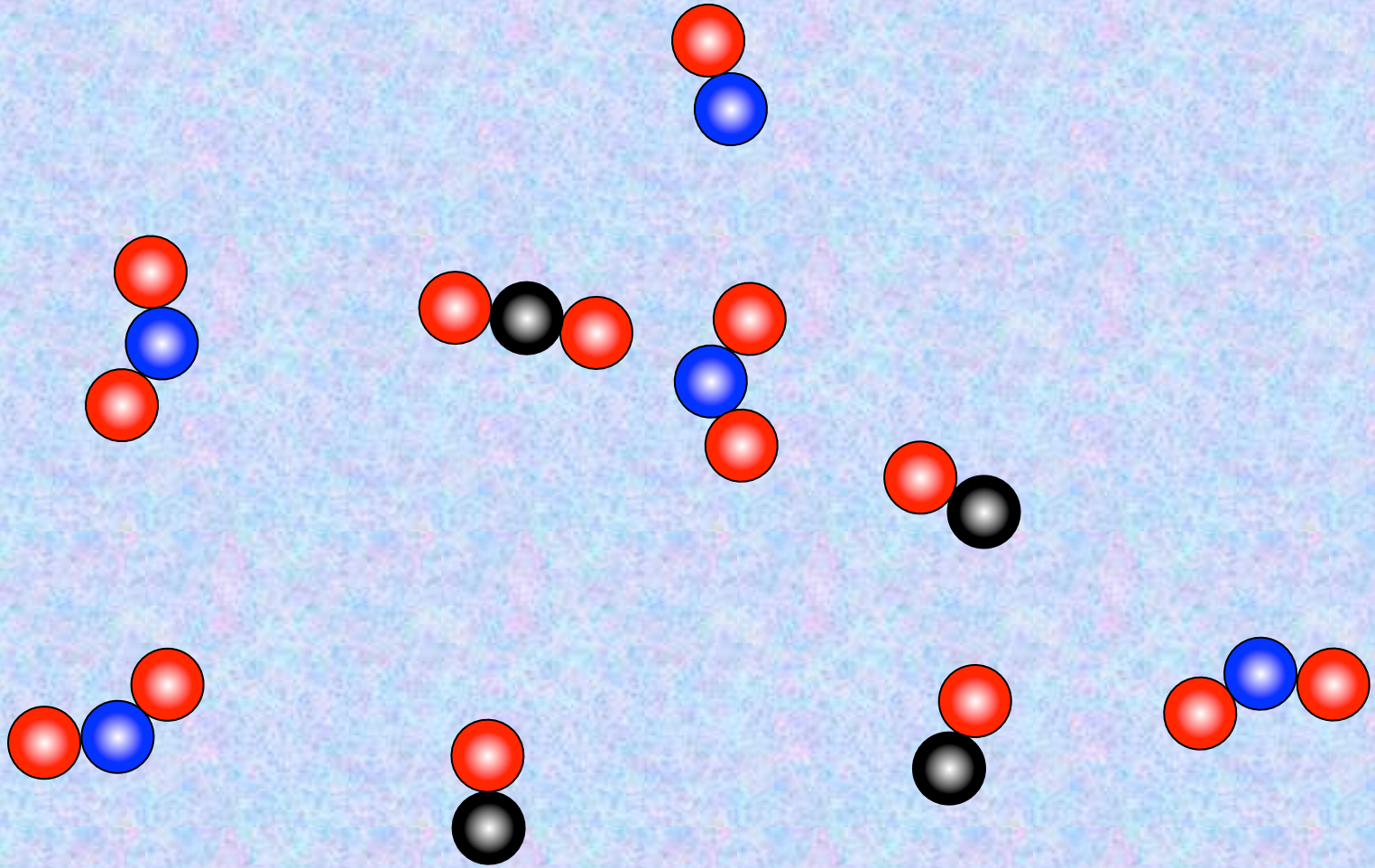

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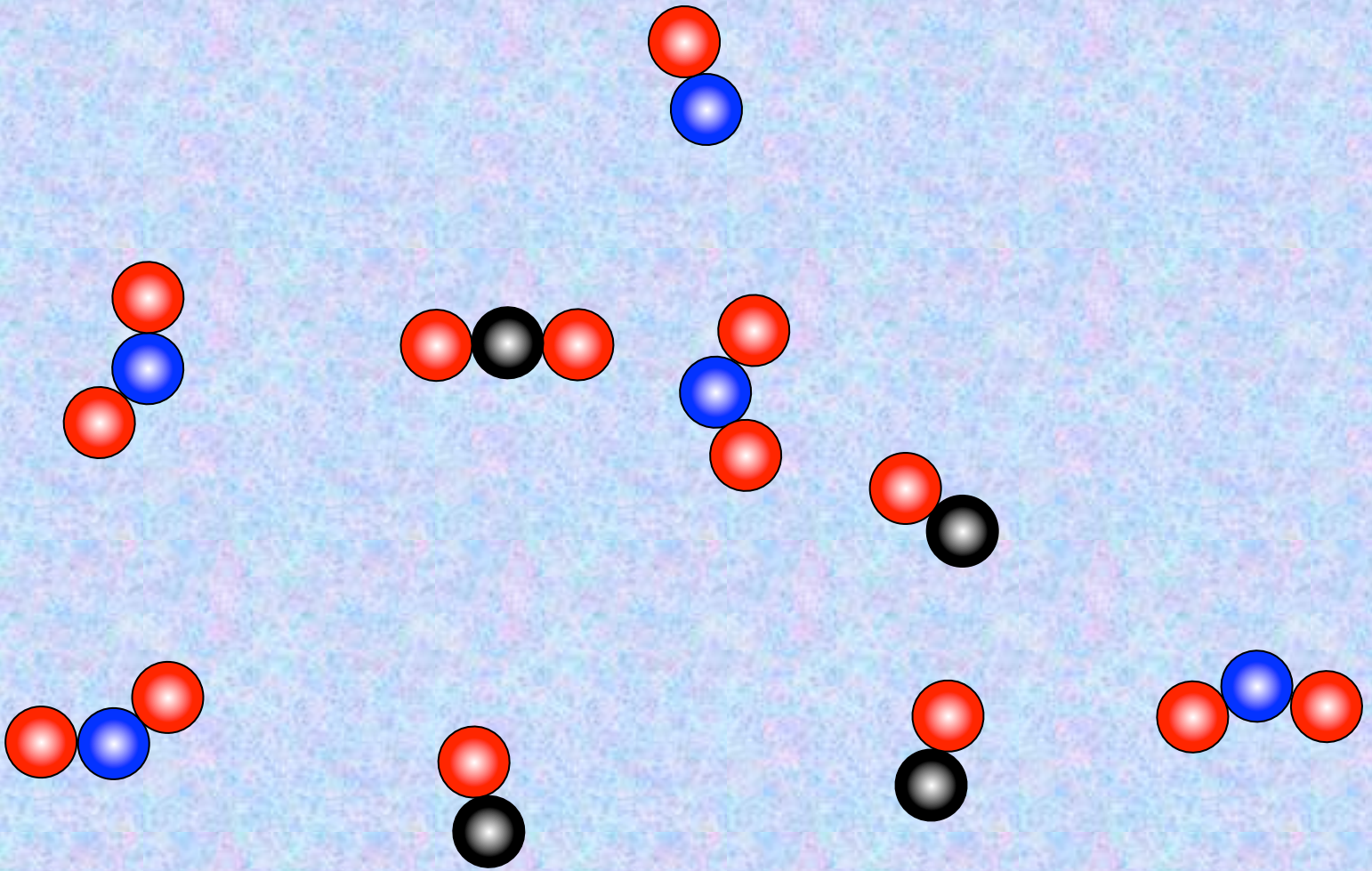

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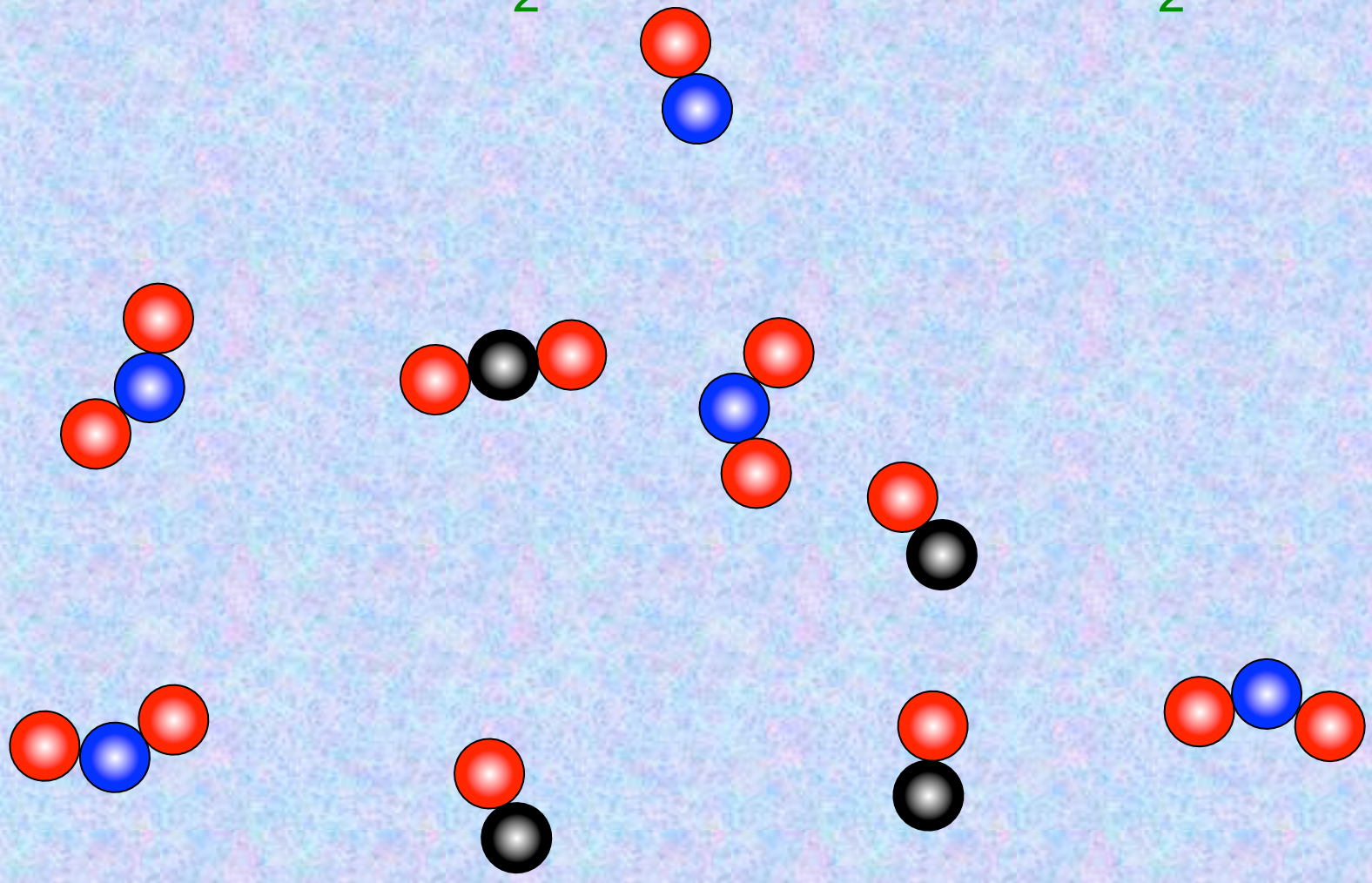


Previous proposed mechanism:

Step 1. $NO_2 + CO \rightarrow NO_2 + CO_2$

Overall: $NO_2 + CO \rightarrow NO + CO_2$

Rate = $k[NO_2]^1[CO]^1$

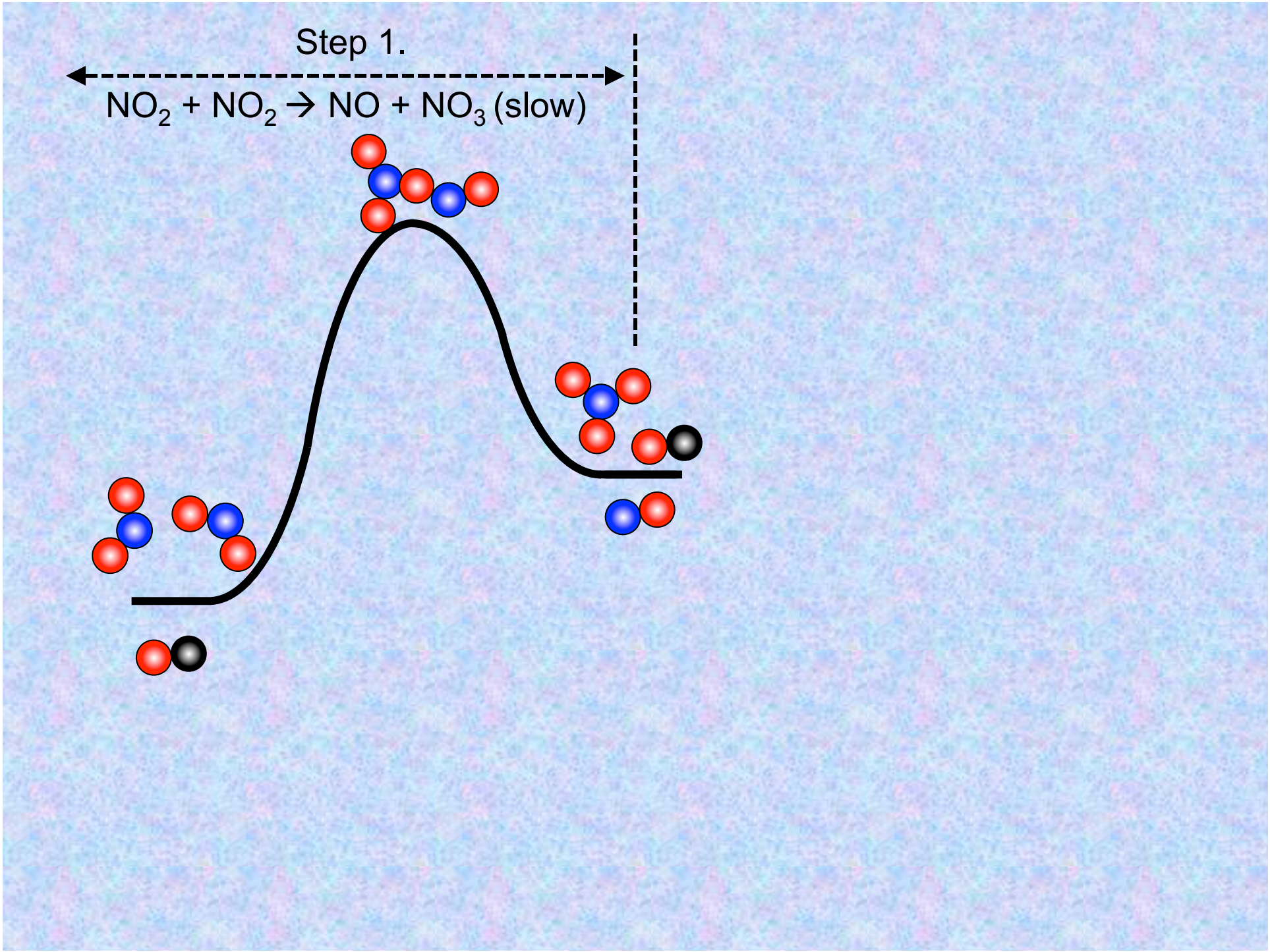
This 2-step proposed mechanism:

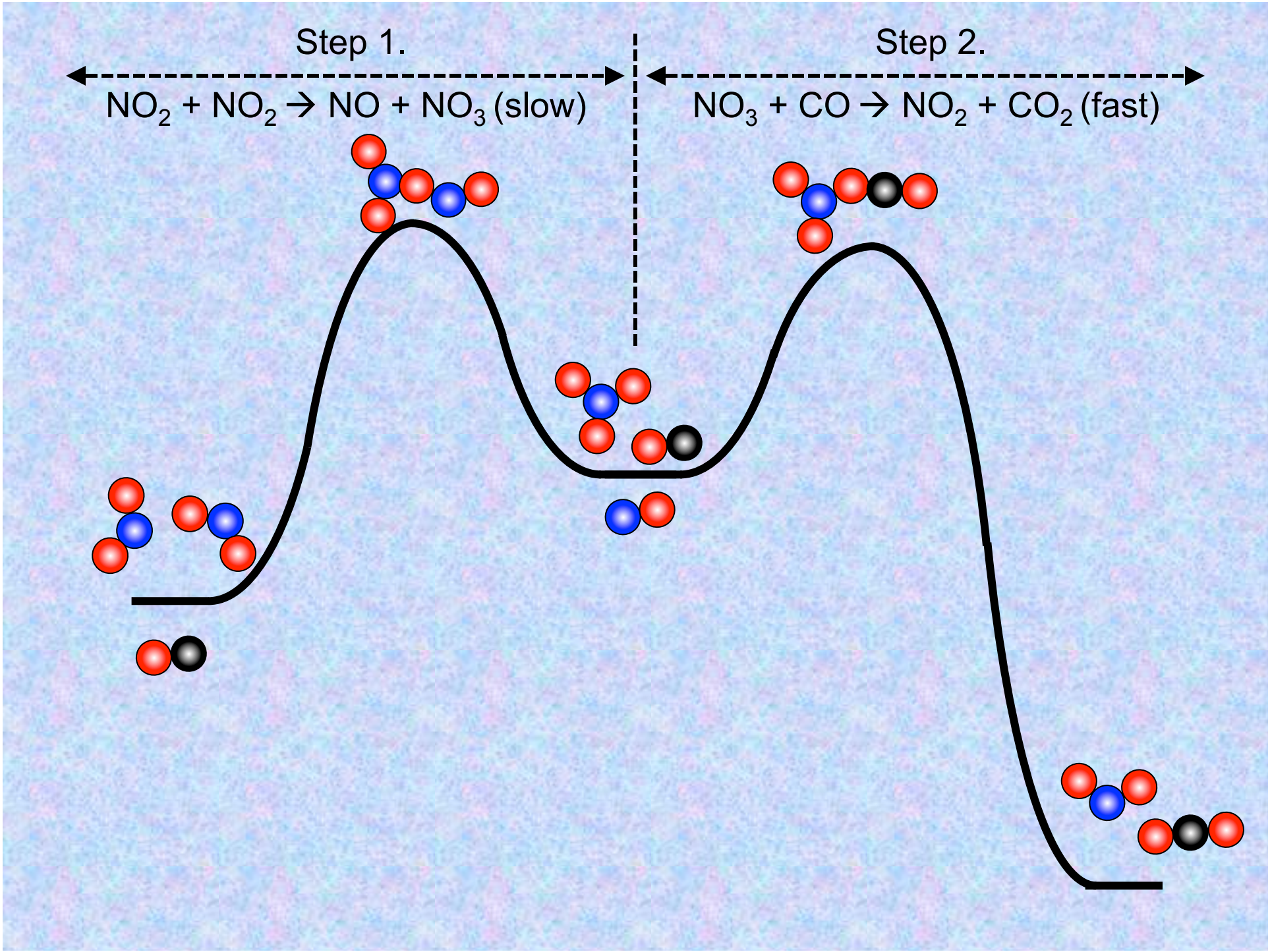
Step 1. $NO_2 + NO_2 \rightarrow NO + NO_3$ (slow)

Step 2. $NO_3 + CO \rightarrow NO_2 + CO_2$ (fast)

Overall: $NO_2 + CO \rightarrow NO + CO_2$

Rate = $k[NO_2]^2$


Step 1.
$NO_2 + NO_2 \rightarrow NO + NO_3$ (slow)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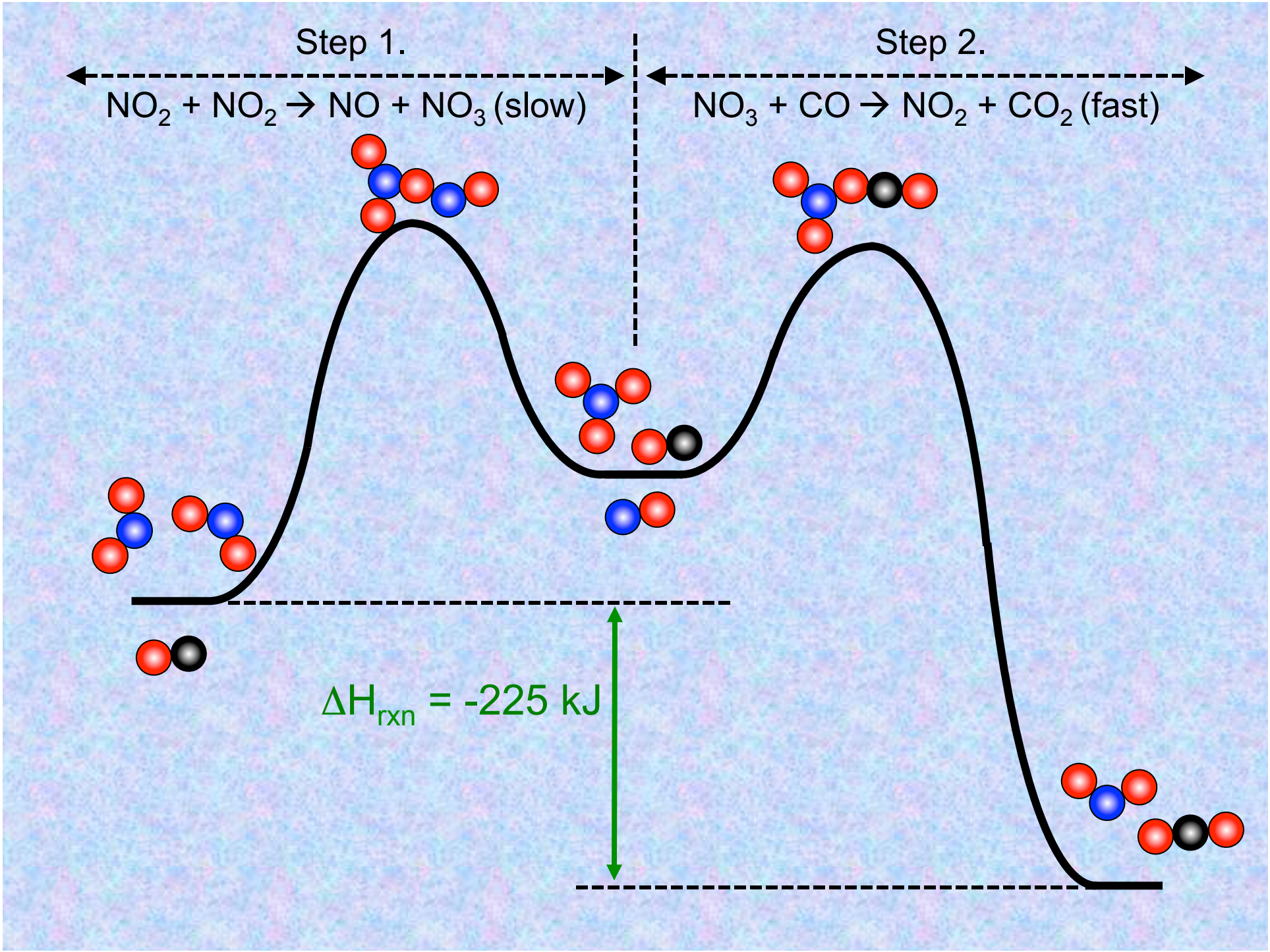
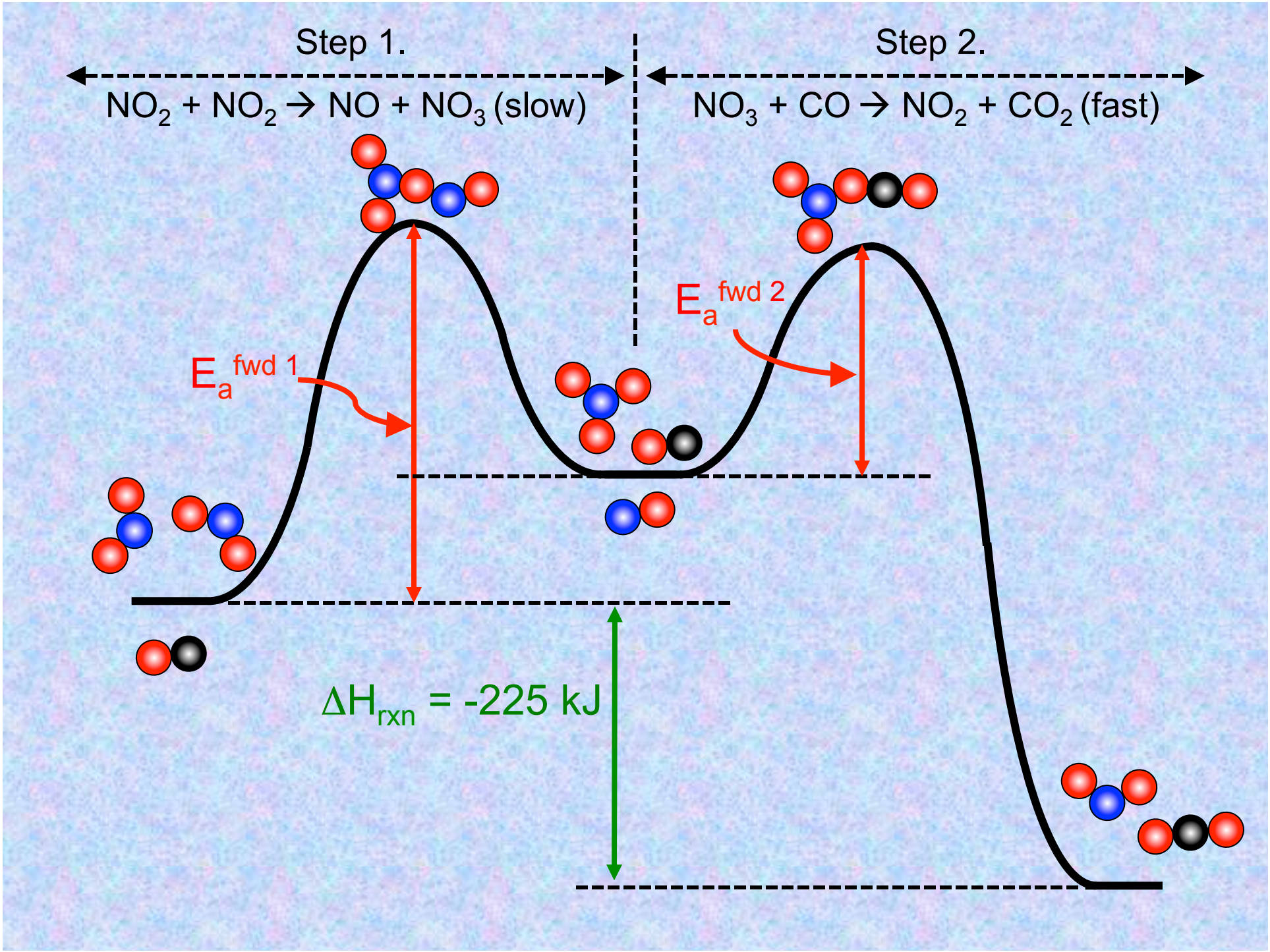
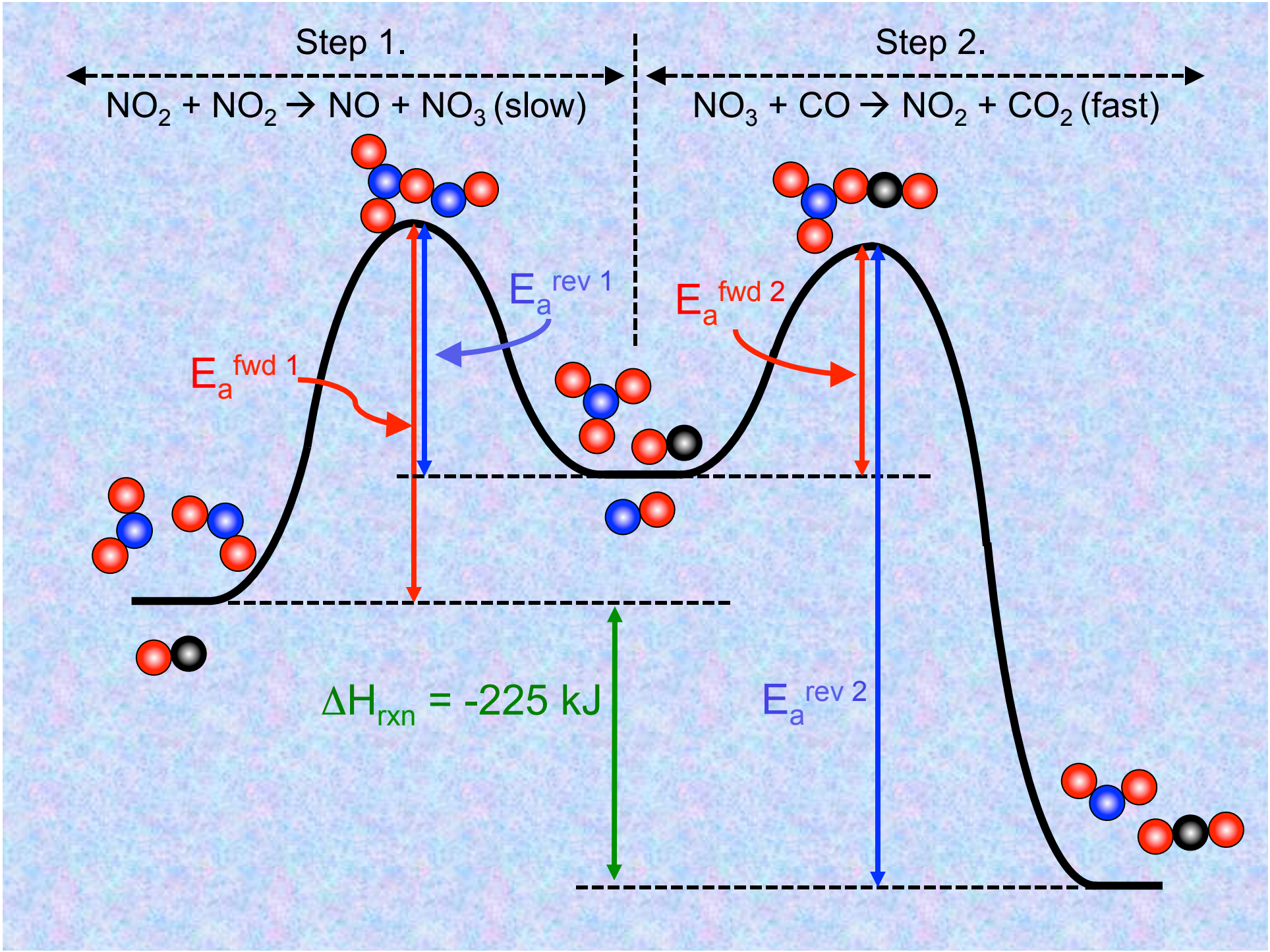

Step 1.
$NO_2 + NO_2 \rightarrow NO + NO_3$ (slow)
Step 2.
$NO_3 + CO \rightarrow NO_2 + CO_2$ (fast)
ΔH_{rxn} = -225 kJ


Step 1.
$NO_2 + NO_2 \rightarrow NO + NO_3$ (slow)
Step 2.
$NO_3 + CO \rightarrow NO_2 + CO_2$ (fast)
$E_a^{fwd\ 1}$
$E_a^{fwd\ 2}$
ΔH_{rxn} = -225 kJ


Step 1.
Step 2.
$NO_2 + NO_2 \rightarrow NO + NO_3$ (slow)
$NO_3 + CO \rightarrow NO_2 + CO_2$ (fast)
$E_a^{fwd\ 1}$
$E_a^{rev\ 1}$
$E_a^{fwd\ 2}$
$E_a^{rev\ 2}$
ΔH_{rxn} = -225 kJ