NaCs* update

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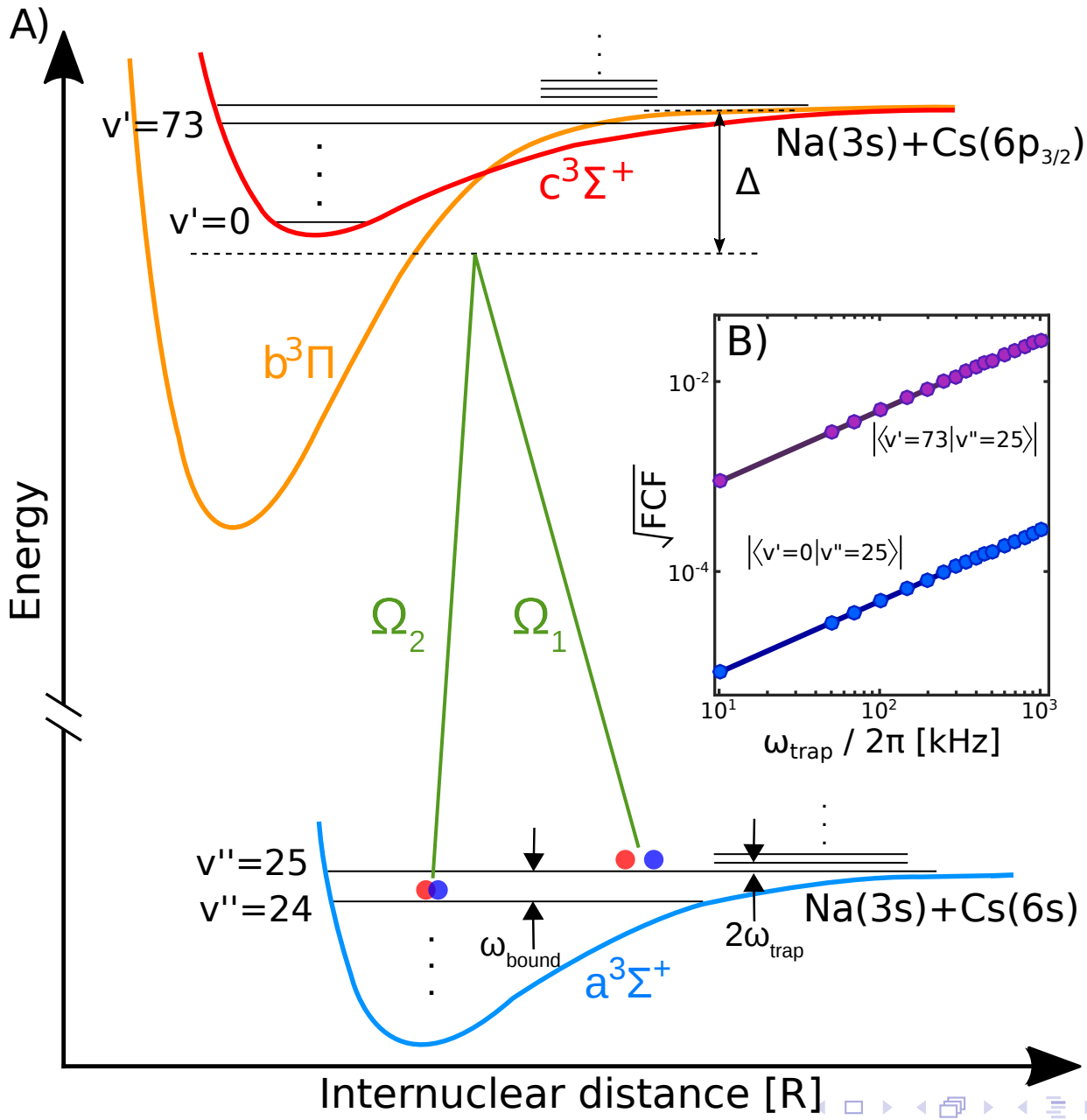
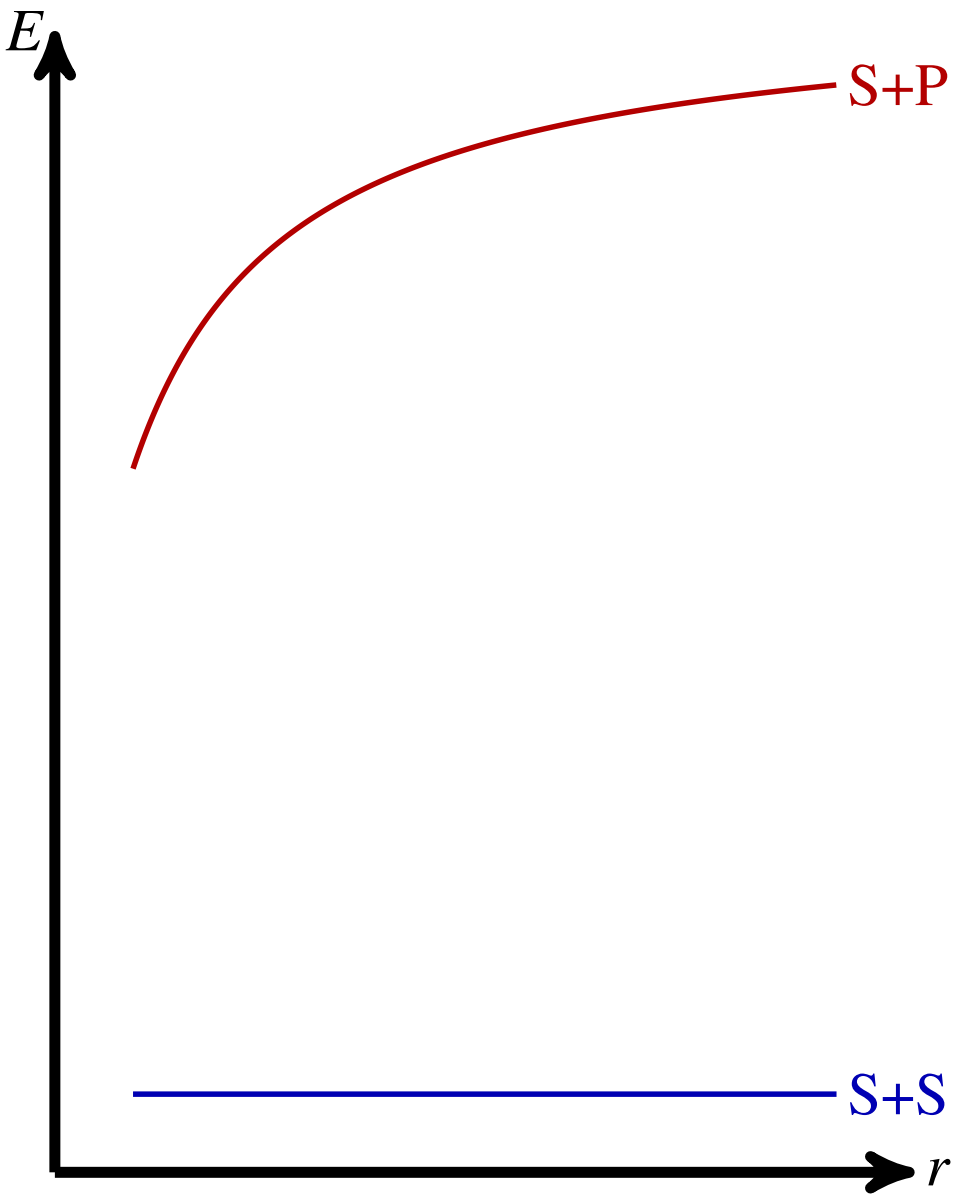
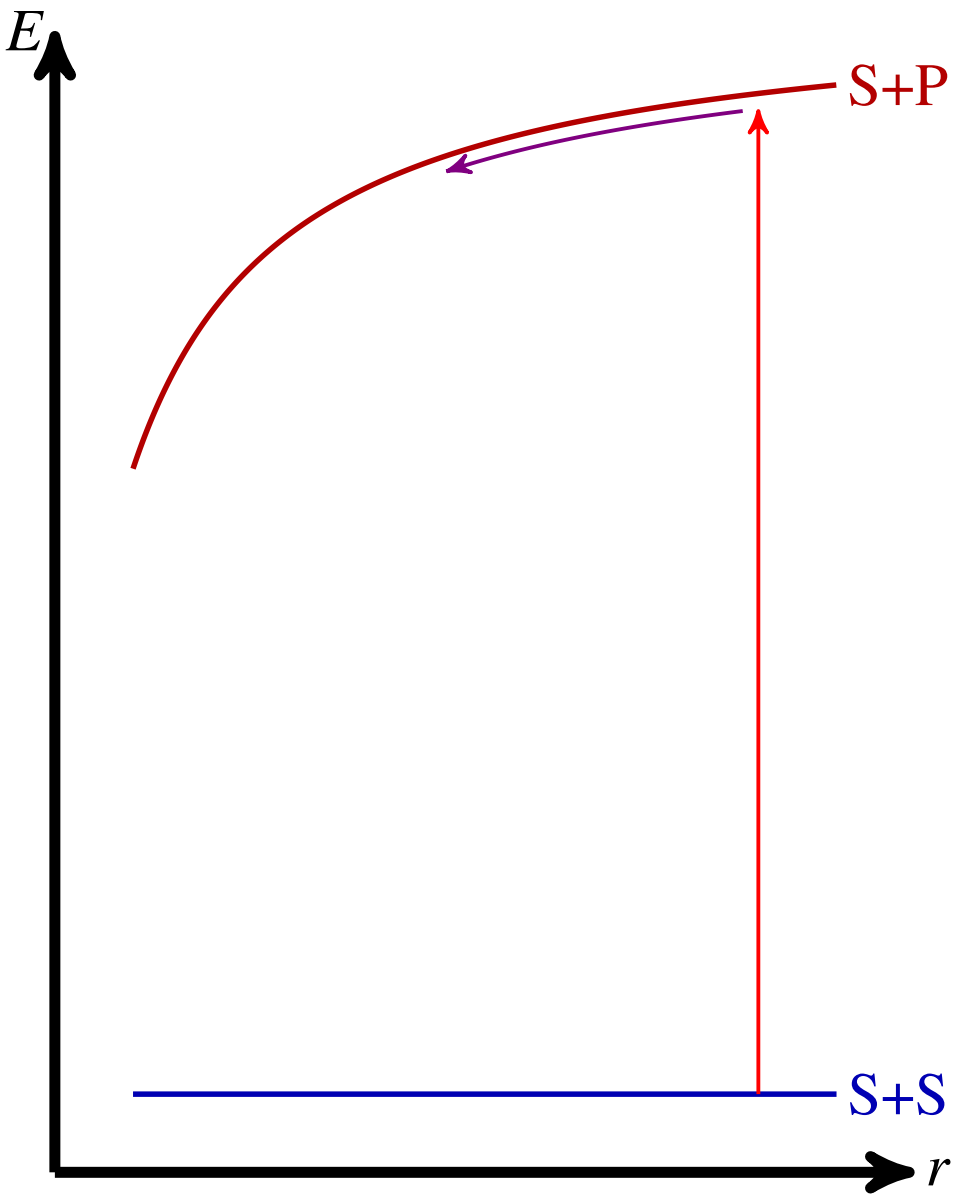
Making molecules



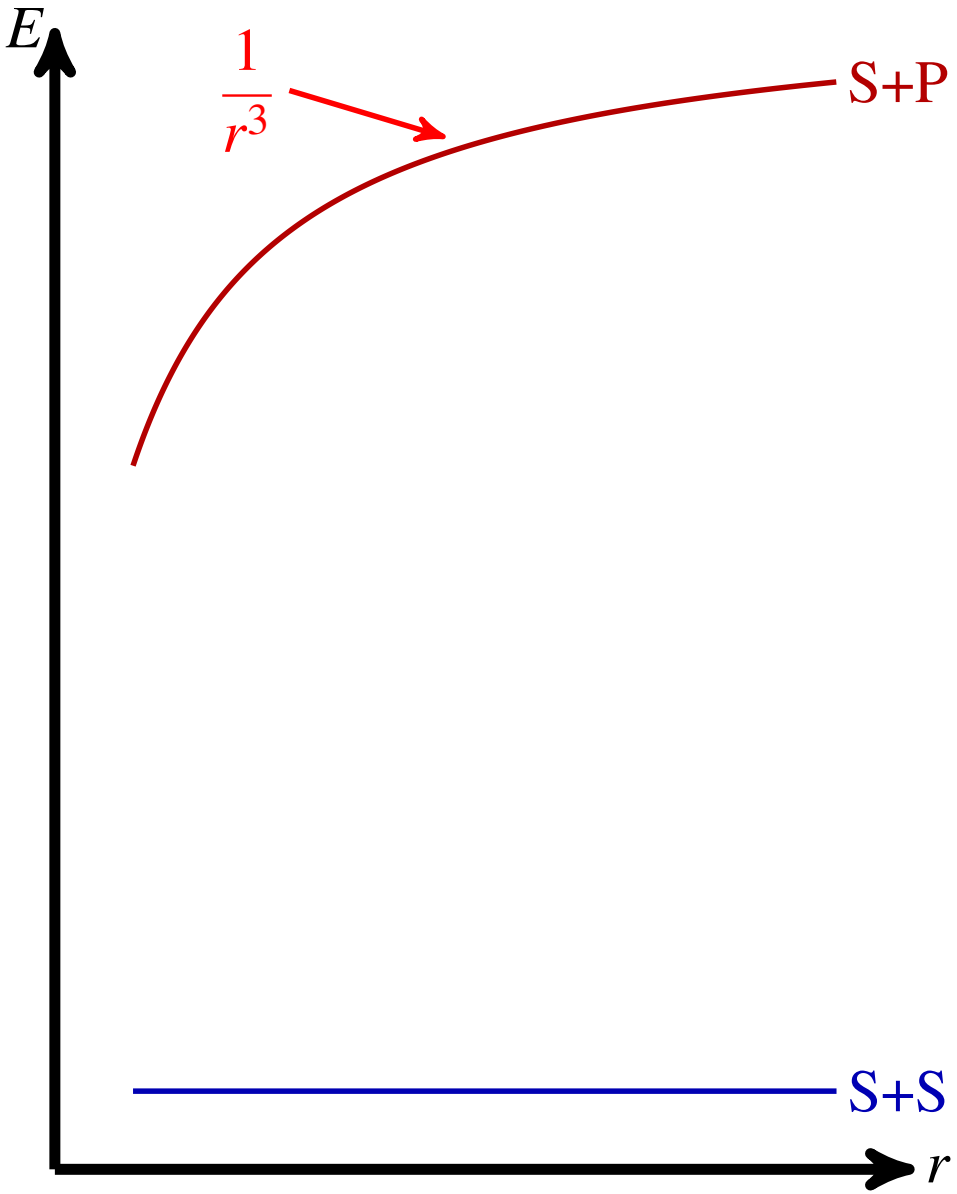
Light-assisted collisions



Light-assisted collisions

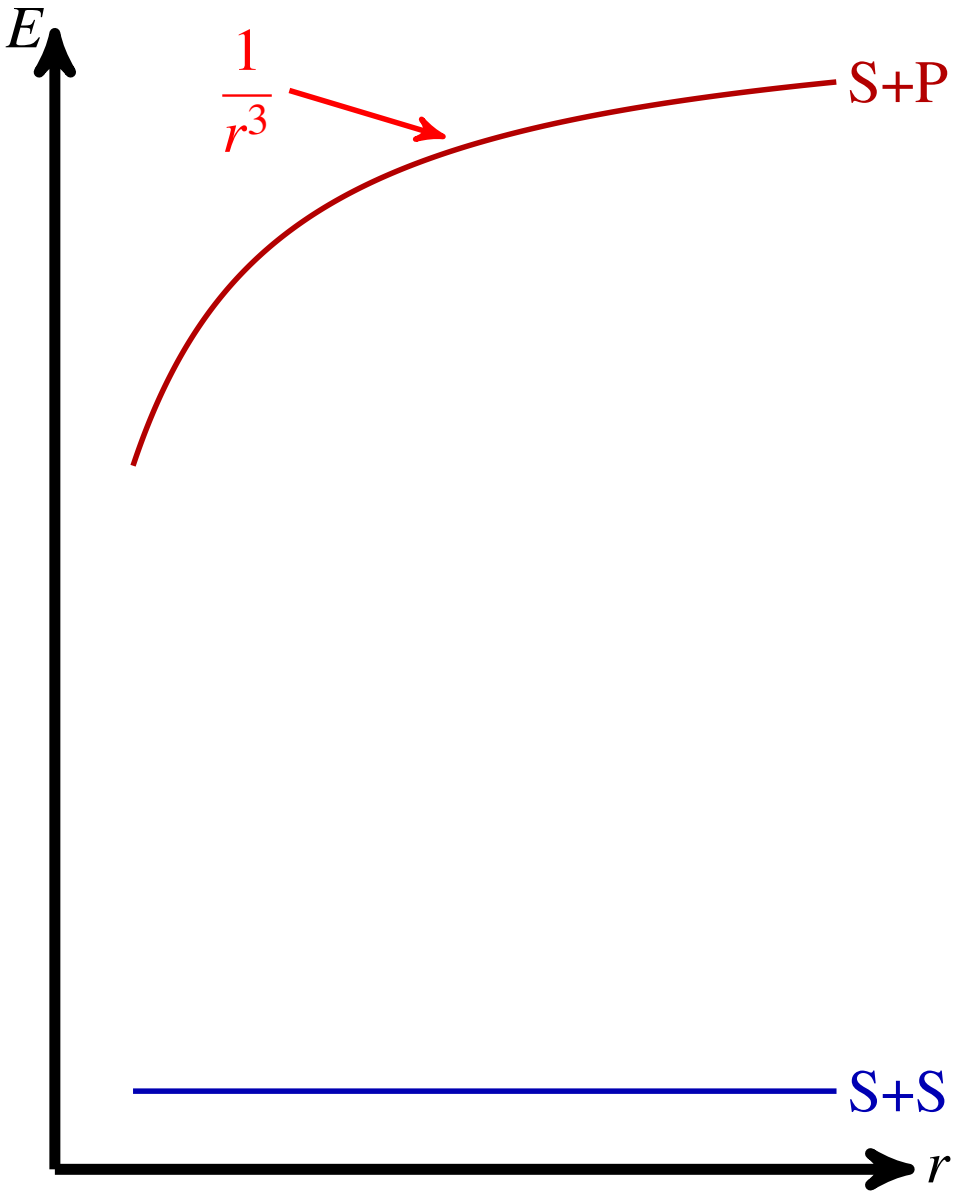


Light-assisted collisions



$$V_{Cs+Na} \propto \frac{1}{r^6}$$

Light-assisted collisions



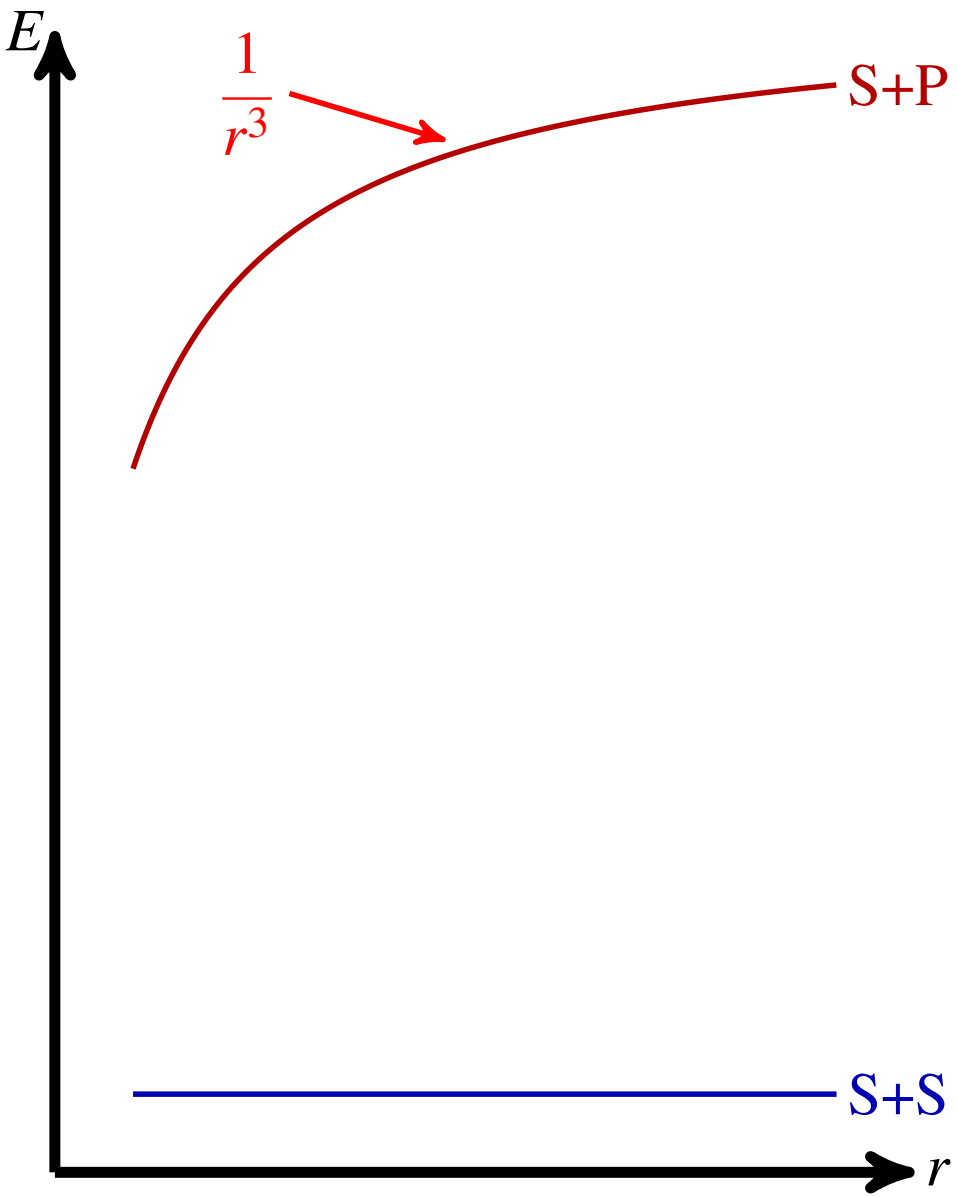
$$V_{Cs+Na} \propto \frac{1}{r^6}$$

$$d_{Cs,S\to P} \approx 11.4D$$

$$V_{Cs+Cs}(100\text{nm}) \approx 4MHz$$

$$V_{Cs+Na}(5\text{nm}) \approx 4MHz$$

Light-assisted collisions



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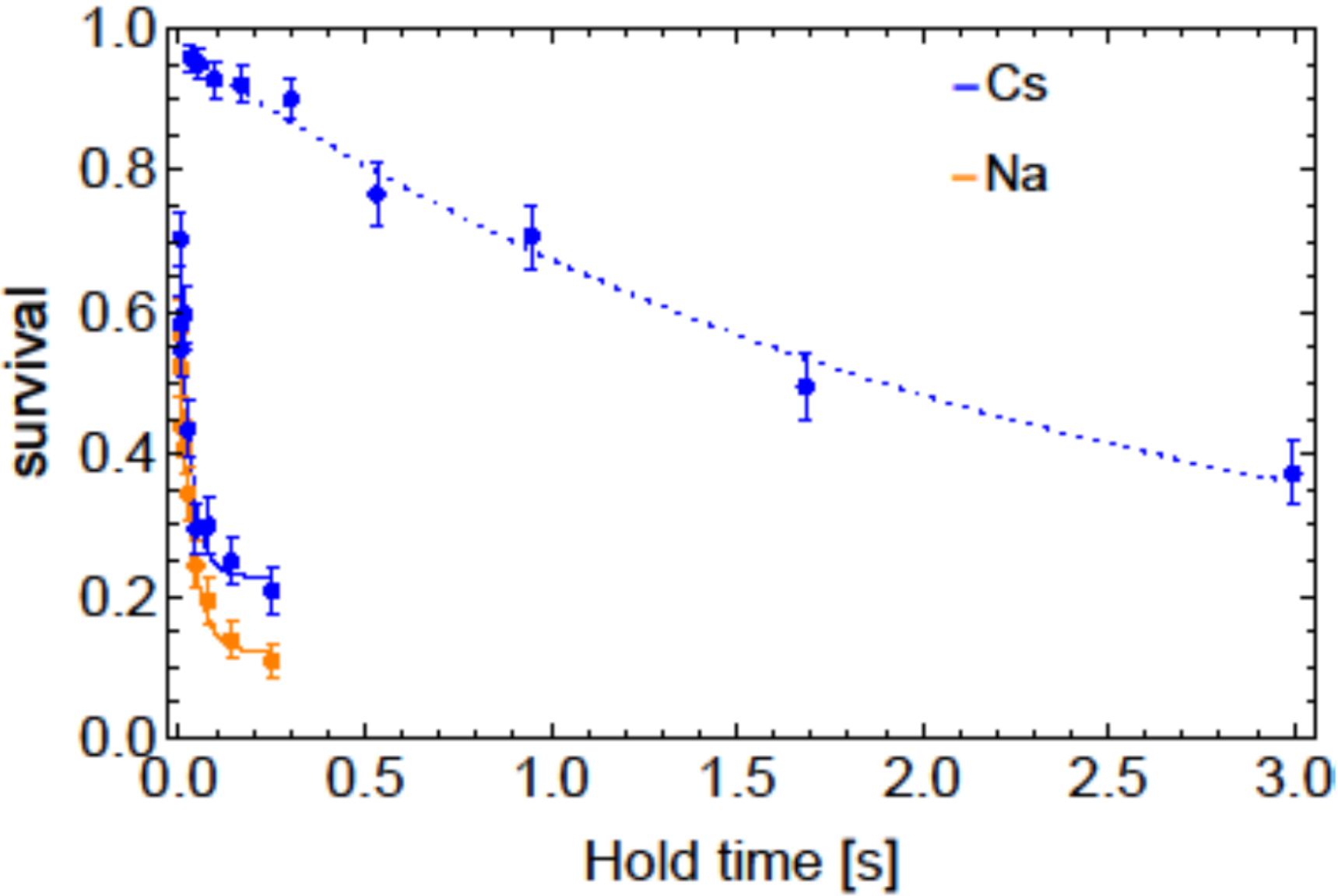
Conclusion

Photo association between Na and Cs requires much higher intensity.

Two body loss



Two body loss

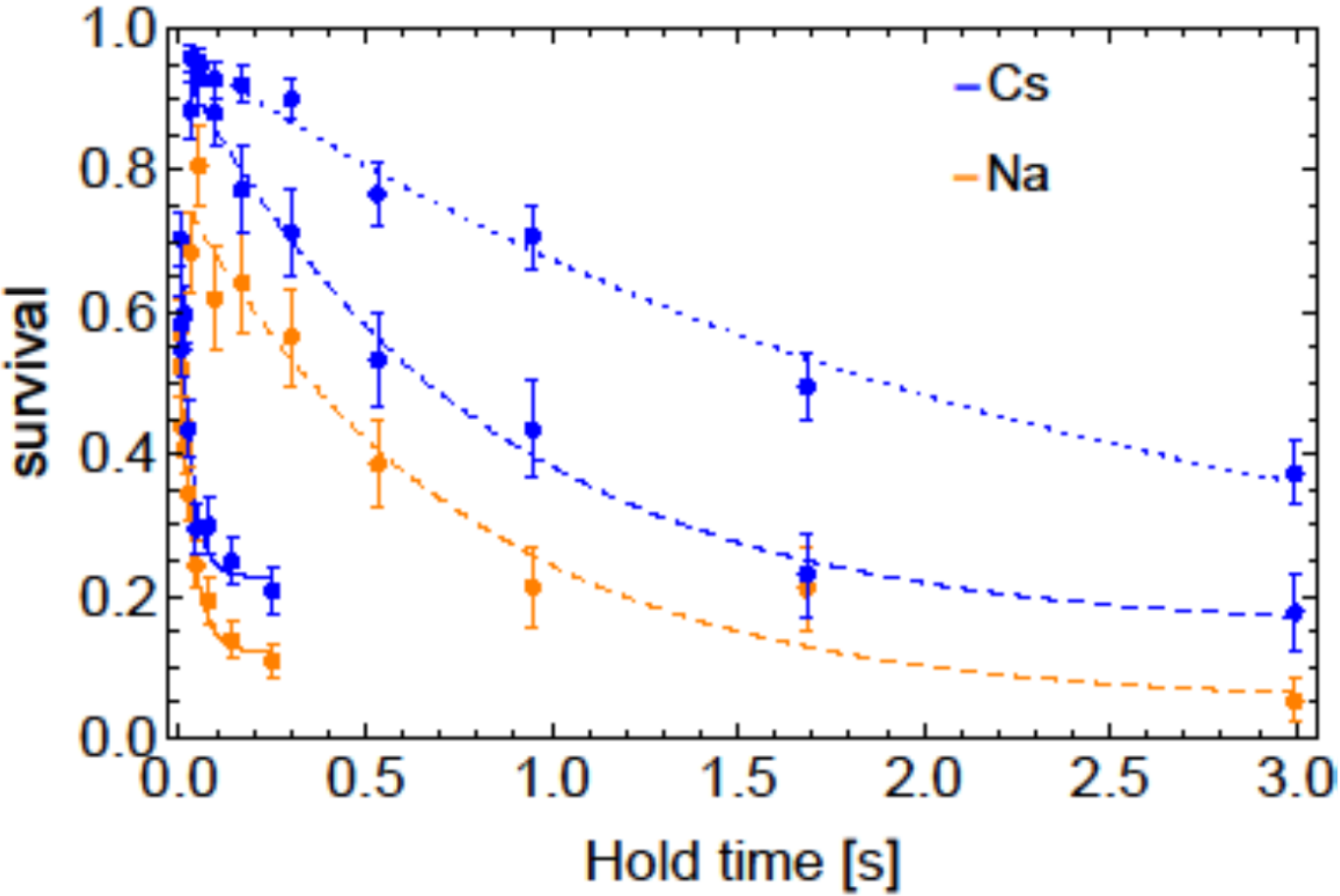


Photo association

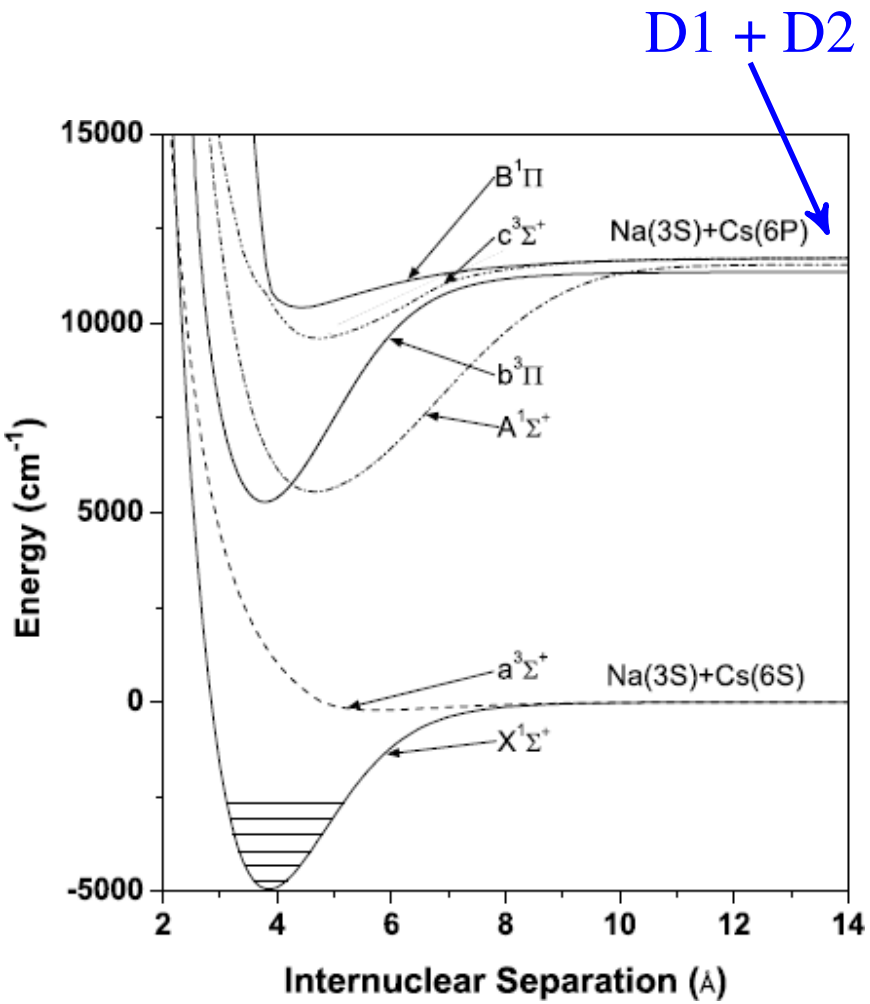
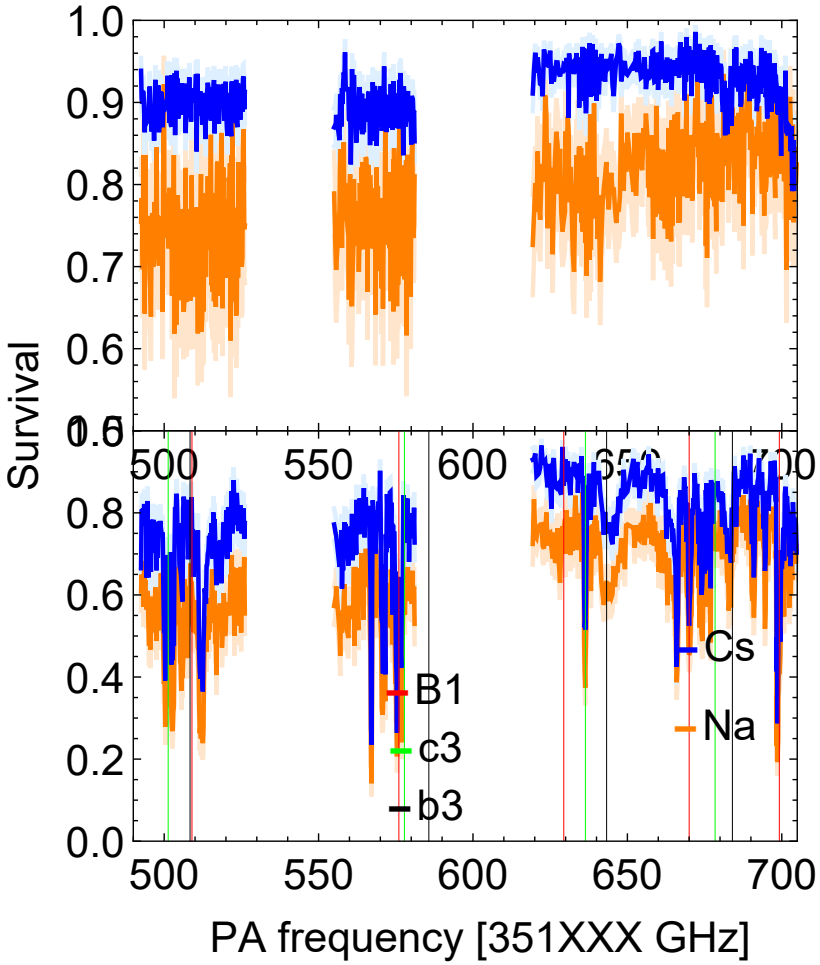
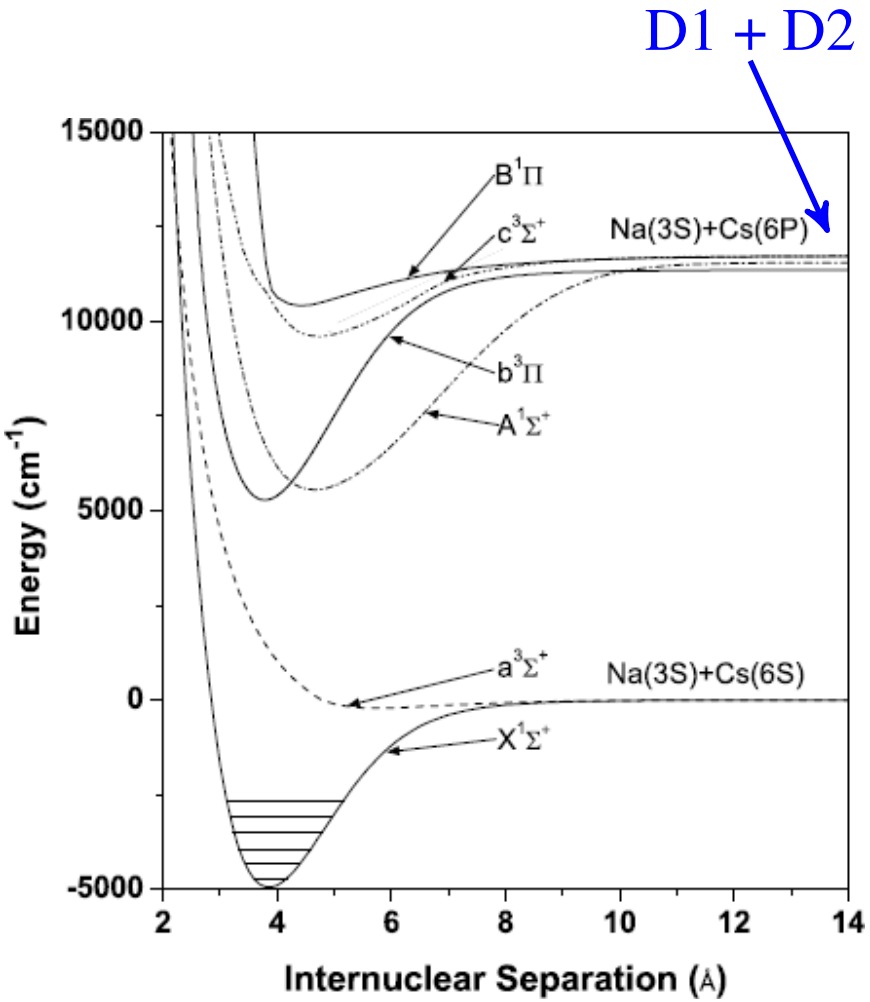


Photo association





Current/next step

- Get atoms cold again
- Prepare hyperfine state
- Find molecular ground state