AB INITIO CALCULATIONS OF ASTRONOMICALLY INTERESTING ANIONS

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The recent laboratory detections of the linear carbon chain anions, $C_{2n}H^-$ $(n = 1, 2, 4)$, in the radio band were supported by high level *ab initio* calculations of their rotational constants. The methods employed in these calculations and the accuracy attained ($\sim 0.1\%$) will be discussed. Our ongoing theoretical work towards guiding radio searches for other molecular anions will be described.