THE NEARLY PERFECT CORRELATION BETWEEN THE DIFFUSE INTERSTELLAR BANDS $\lambda\lambda$6196.0 AND 6613.6

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As part of our long-term survey of the diffuse interstellar bands (DIBs) at the Apache Point Observatory, we found that the equivalent widths of $\lambda\lambda$6196.0 and 6613.6 are extremely well correlated, with a correlation coefficient of 0.986 in a diverse sample of 114 diffuse cloud sightlines. The observations are statistically consistent with a perfect correlation if the observational errors have been underestimated by a factor of two. The quality of this correlation far exceeds other previously studied correlations, for example those between the λ5780.5 DIB and quantities such as the color excess or atomic hydrogen column density. The very tight correlation between these two DIBs strongly suggests that they may represent the first pair of DIBs known to be caused by the same molecular carrier. However, an explanation of how a single carrier can produce bands with such different linewidths and band shapes is still needed.