1106-05-1123 **Jonathan Bloom*** (`jbloom314@gmail.com`) and **Alex Burstein**. *Another (more refined) look at the Wilf-equivlance of certain length 4 pattern.*

In their recent paper *Mahonian Pairs*, Sagan and Savage propose studying the following q-analogue of Wilf-equivalence. Let $f : S_n \to \{0, 1, 2, \ldots\}$ be any permutation statistic and define the generating function

$$F_\sigma = \sum_{\pi \in AV(\sigma)} z^{|\pi|} q^{f(\pi)}.$$

We then say that σ is *f-Wilf-equivalent* to τ provided $F_\sigma = F_\tau$. Motivated by this definition Dokos et al. provided the first in-depth study of maj-Wilf-equivalence and inv-Wilf-equivalence. In their paper, they conjectured that 1423 and 2413 are maj-Wilf-equivalent. We will provide a bijective proof of this fact and show that, in fact, the following list of statistics are simultaneously equidistributed between these two sets: position of descents, right-to-left maxima, $-$bonds.

On a related note, Egge in 2011 conjectured that

$$|AV_n(2143, 3142, \tau)| = (n-1)\text{st large Schröder number}$$

where $\tau \in \{24613, 254613, 263514, 524361, 546132\}$. Using simple permutations and generating function techniques, we provide proofs of all these cases. Lastly, we will discuss some conjectures involving permutation statistics that generalize Egge's observation. (Received September 10, 2014)