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Anders Claesson*, The Mathematics Institute, School of Computer Science, Reykjavik University, 103 Reykjavik, Iceland, and Svante Linusson. n! matchings, n! posets.
Bousquet-Mélou, Claesson, Dukes and Kitaev [arXiv:08060666] gave bijections between four classes of combinatorial objects, thus proving that they are equinumerous: certain matchings due to Stoimenow; unlabeled $(2+2)$-free posets; permutations avoiding a specific pattern; and so called ascent sequences. Inspired by their work we define a natural superset of Stoimenow's matchings whose cardinality is shown to be $n!$. Moreover, we define a set of labeled ( $2+2$ )-free posets, also of cardinality $n!$. Finally, we state a conjecture concerning the distribution of the pattern considered by Bousquet-Mélou et al. (Received September 22, 2009)

