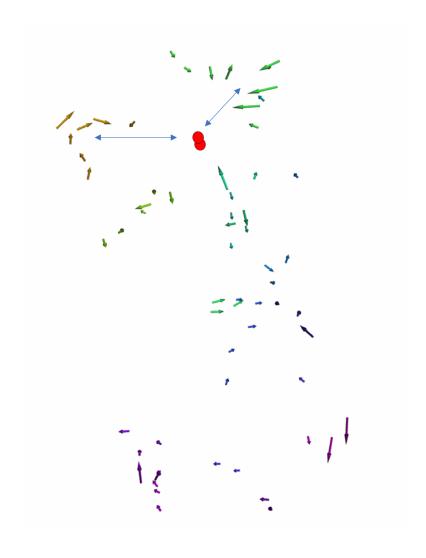


**Figure S1**. Multiple structure overlap of monomer subunits of bacterial M17 peptidases. *E. coli* PepB (PDB code 6oad, this study); *Y. pestis* PepB (6cxd, this study); *E. coli* PepA<sup>5</sup> (1gyt); *P. putida* PepA<sup>6</sup> (3h8e); *H. pylori* M17AP<sup>9</sup> (4zla); *S. aureus* PepZ<sup>10</sup> (3kzw) as aligned by the POSA server.<sup>38</sup>



**Figure S2**. Displacement view of the structural changes in the PepB structure upon Zn<sup>2+</sup> binding. Note the large changes in the loops, despite over 15Å distance between the ion binding sites and the center of the loops. Changes are also visible in the N-terminus. Figure was prepared using a new interface in the FATCAT structure alignment program.<sup>39</sup>