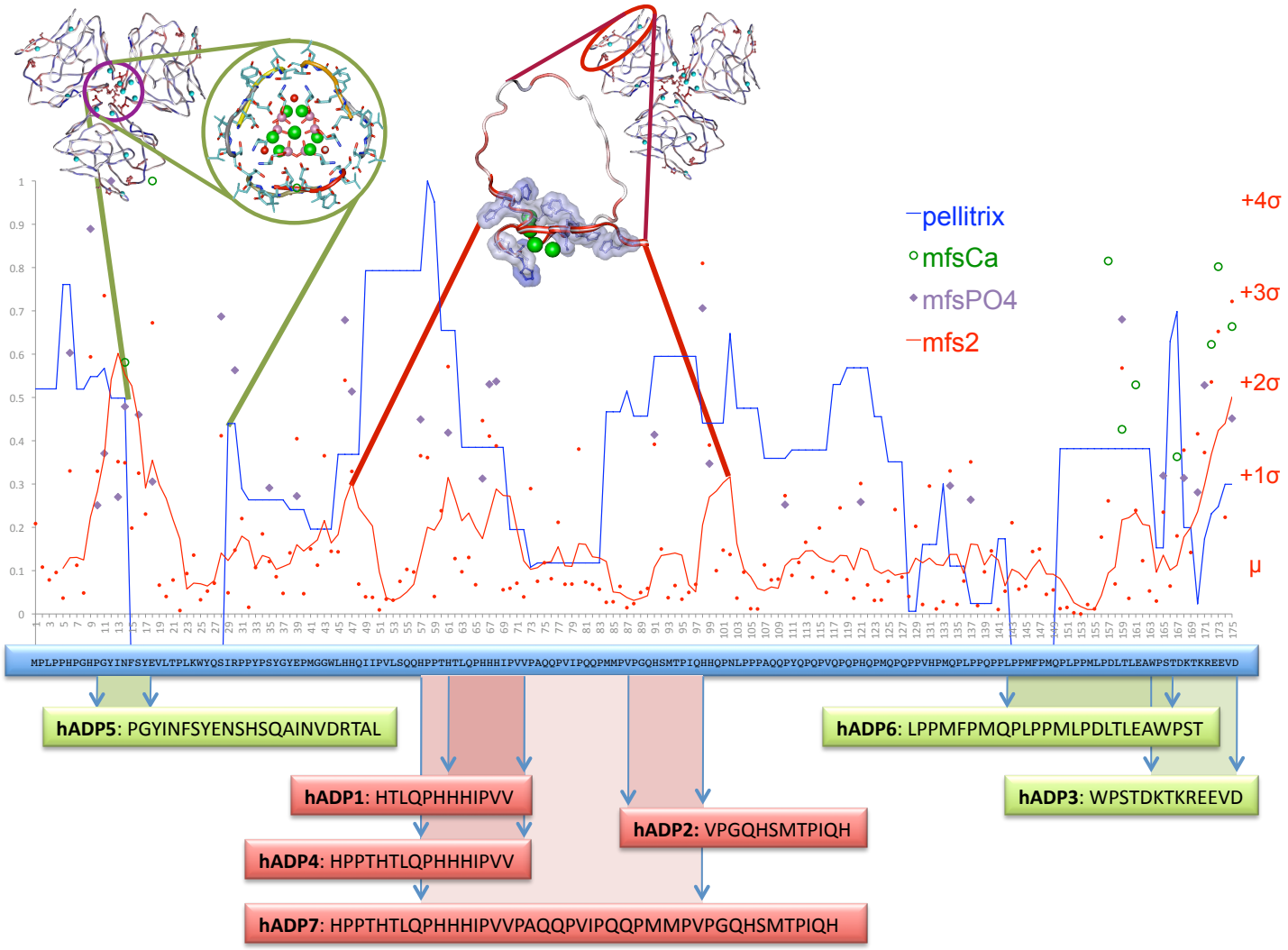

Figure 9. Summary of novel AMELX functionality. Computational prediction of AMELX regions responsible for nucleation and maturation of hydroxyapatite. The YINFSYE region (top left in green) was predicted to nucleate $CaPO_4$ by functional importance, structure- and sequence-based calcium ion binding, phosphate binding, negative enamel binding, quaternary structure and rebuilding around the hydroxyapatite unit cell (circular inset). The HΦ region (top center in red) was predicted by functional importance, phosphate, calcium ion, and enamel binding, and tertiary structure to bind and mature hydroxyapatite. Data plot as described in figure 6. At bottom are the human sequences (hADP) corresponding to the murine AMELX-derived peptides currently undergoing study.