**Supplementary Dataset S7. Accession numbers for the structural motifs**. This dataset stores the accession numbers for the pattern data of different structural motifs downloaded from PROSITE database (https://prosite.expasy.org/). All pattern sequences can be downloaded using these accession numbers from PROSITE.

**type motifs:**

PS00368, PS00067, PS00068, PS00081, PS00019, PS00036, PS00058, PS00118, PS00119, PS00137, PS00138, PS00142, PS00153, PS01259, PS00204, PS00208, PS01238, PS00219, PS00220, PS00226, PS00227, PS00211, PS00237, PS01206, PS00312, PS00326, PS00327, PS00335, PS00338, PS00345, PS00353, PS00360, PS00414, PS00394, PS00424, PS00435, PS00437, PS00449, PS00468, PS00513, PS00517, PS00547, PS00549, PS00579, PS00630, PS01111, PS00796, PS00797, PS00663, PS00685, PS00688, PS00715, PS00741, PS00767, PS00774, PS00782, PS00865, PS00880, PS00914, PS00937, PS00950, PS00954, PS00955, PS00933, PS00959, PS00969, PS01001, PS01050, PS01069, PS01023, PS00981, PS01039.

**type motifs**

PS00056, PS00059, PS00085, PS00021, PS00022, PS00045, PS00049, PS00064, PS00070, PS00074, PS00082, PS00084, PS00087, PS00094, PS00092, PS00096, PS00108, PS00111, PS00127, PS00129, PS00130, PS00133, PS00135, PS00136, PS00196, PS00149, PS00151, PS00157, PS00181, PS00185, PS00189, PS00205, PS01055, PS00614, PS01333, PS01325, PS01299, PS01284, PS01285, PS01287, PS01293, PS01295, PS01245, PS01234, PS01239, PS00228, PS00232, PS00240, PS00248, PS00249, PS00250, PS00251, PS00253, PS00261, PS00269, PS00272, PS00277, PS00289, PS00290, PS01176, PS01187, PS00281, PS00283, PS00284, PS00300, PS00307, PS00308, PS00319, PS00332, PS00333, PS00366, PS00376, PS00387, PS00458, PS00469, PS00479, PS00496, PS00503, PS00530, PS00551, PS00572, PS00591, PS00602, PS00615, PS00616, PS00635, PS00638, PS00639, PS00659, PS00673, PS00681, PS00682, PS00687, PS00689, PS00697, PS00703, PS00726, PS00710, PS00728, PS00731, PS00732, PS00758, PS00763, PS00768, PS00775, PS00776, PS00777, PS00780, PS00785, PS00793, PS00794, PS00791, PS00813, PS00848, PS00853, PS00856, PS00866, PS00867, PS00868, PS00888, PS00941, PS00965, PS00966, PS00980, PS00990, PS00991, PS01010, PS01032, PS01034, PS01037, PS01048, PS01058, PS01065, PS01078, PS01103, PS01120, PS01122, PS01153, PS01156.

**and type motifs:**

PS00028, PS00039, PS00050, PS00062, PS00063, PS00066, PS00075, PS00080, PS00100, PS00106, PS00113, PS00114, PS00103, PS00120, PS00110, PS00134, PS00131, PS00132, PS00150, PS00158, PS00156, PS00164, PS00171, PS00177, PS00186, PS00194, PS00201, PS00206, PS00195, PS01330, PS01331, PS01298, PS01235, PS01216, PS01217, PS00214, PS00271, PS00278, PS01191, PS01194, PS01182, PS00293, PS00296, PS00321, PS00358, PS00359, PS00381, PS00393, PS00398, PS00430, PS00432, PS00441, PS00445, PS00450, PS00486, PS00529, PS00533, PS00534, PS00560, PS00566, PS00577, PS00583, PS00589, PS00603, PS00606, PS00628, PS00629, PS00677, PS00683, PS00692, PS00690, PS00723, PS00730, PS00739, PS00742, PS00766, PS00778, PS00783, PS00786, PS00798, PS00810, PS00816, PS00836, PS00842, PS00893, PS00895, PS00912, PS00915, PS00919, PS00923, PS00924, PS00934, PS00940, PS00958, PS00963, PS00993, PS01054, PS01077, PS01098, PS01100, PS01127, PS01135, PS01139, PS01144, PS01150, PS01159, PS01162, PS01165.

**B Harping rings,**

PS00010, PS00023, PS00024, PS00099, PS00116, PS00141, PS00170, PS00188, PS01354, PS01355, PS01356, PS01358, PS01344, PS01242, PS01220, PS00236, PS01202, PS01186, PS00287, PS00295, PS00297, PS00329, PS00347, PS00373, PS00378, PS00382, PS00389, PS00451, PS00464, PS00466, PS00462, PS00484, PS00558, PS00562, PS00626, PS00640, PS00649, PS00652, PS00680, PS00748, PS00769, PS00790, PS00820, PS00850, PS00973, PS00989, PS01013, PS01064, PS01075, PS01076, PS01105, PS01108, PS01123, PS01169, PS01166, PS00330, PS01253, PS01040, PS00844, PS01262, PS00344, PS00352, PS00576, PS00478, PS01274.

**EF Hand,**

PS00034, PS00035, PS00042, PS00052, PS00061, PS00073, PS00060, PS00077, PS00362, PS00632, PS00801, PS01126, PS00145, PS00165, PS00174, PS00176, PS00210, PS01258, PS00212, PS00217, PS00238, PS00275, PS01155, PS00292, PS00303, PS00356, PS00357, PS00384, PS00463, PS00507, PS00521, PS00550, PS00622, PS00623, PS00636, PS00644, PS00716, PS00714, PS00737, PS00743, PS00756, PS00788, PS00802, PS00908, PS00916, PS01080, PS01063, PS01067, PS01045, PS00931, PS00095.

**motifs**

PS00079, PS00091, PS00862, PS01212, PS00286, PS00600, PS00696, PS00707, PS00709, PS00719, PS00837, PS00840, PS01028, PS00105, PS01264, PS00595, PS00892, PS00909, PS01131, PS01154, PS01171.

**motifs**

PS00020, PS00634, PS00187, PS00446, PS00571, PS00759, PS01016, PS01109, PS01134, PS00027, PS01189, PS01316, PS00559, PS00573, PS00676, PS00705, PS00708, PS00979, PS01128, PS00662.

**motifs with loop structures**

PS00014, PS00055, PS00125, PS00161, PS00197, PS00202, PS01329, PS01326, PS00348, PS00377, PS00410, PS00419, PS00455, PS00491, PS00501, PS00506, PS00641, PS00678, PS00702, PS00781, PS00863, PS00961, PS00996, PS00998, PS01002, PS01107, PS01143.

**motifs**

PS00026, PS00031, PS00053, PS00054, PS00166, PS01360, PS01283, PS01256, PS01251, PS00299, PS00350, PS00420, PS00243, PS00452, PS00522, PS00585, PS00621, PS00672, PS00720, PS00770, PS00779, PS00932, PS01003, PS01079, PS01117, PS01138, PS00440, PS00472.