Table 1:

Design	*Thickness (nm)*	$E_3 - E_2\ (meV)$	$E_2 - E_1\ (meV)$	$f_{21}\ (a.u.)$	$\Delta_{1'3}\ (meV)$
$D1$	$\mathbf{4.4}/\underline{5.6}/\mathbf{1.2}/7.7/\mathbf{2.8}/8.1$	34.8	16.3	0.32	6.7
$D2$	$\mathbf{4.4}/\underline{5.6}/\mathbf{1.2}/7.7/\mathbf{2.4}/7.9$	34.7	16.5	0.45	6.6
$D3$	$\mathbf{4.2}/\underline{5.5}/\mathbf{1.2}/8.1/\mathbf{2.0}/7.8$	34.6	16.4	0.62	6.7
$D4$	$\mathbf{4.0}/\underline{5.5}/\mathbf{1.2}/8.5/\mathbf{1.7}/7.5$	34.3	16.3	0.82	6.9

TABLE I. Overview of the layer sequences and key parameters of the four designs. The layer thicknesses of one active module are given with the $Al_{0.15}Ga_{0.85}As$ barriers in bold and GaAs wells in plain text. The underlined wells are doped with Si at the level of 2.66×10^{16} cm^{-3}, 2.61×10^{16} cm^{-3}, 2.62×10^{16} cm^{-3} and 2.58×10^{16} cm^{-3} for D1 – D4 respectively, yielding average bulk level of 5.0×10^{15} cm^{-3}. E_3-E_2 is the energy separation between subbands 3 and 2, E_2-E_1 is the energy separation between subbands 2 and 1, f_{21} is the scaled oscillator strength, and $\Delta_{1'3}$ is the anticrossing gap energy of the subbands 1' and 3. The principal difference between the four designs is the optical transition diagonality, which is characterized by f_{21}.