Table 1: Summary of Λ_c^+, Σ_c, Ξ_c and Ω_c^0 families of charmed baryon excited states. With the exception of the $\Lambda_c^+(2880)$, the J^P assignments are made from theoretical models based on the masses, widths and decay patterns observed

Charmed Baryon Excited State	Mode	Mass (MeV/c^2)	Natural Width (MeV/c^2)	J^P	Status and Comments
$\Lambda_c(2595)^+$	$\Lambda_c^+\pi^+\pi^-$, $\Sigma_c\pi$	2592.25 ± 0.28	$2.59 \pm 0.30 \pm 0.47$	$1/2^-$	well established, most precise mmeasurement by CDF [1]
$\Lambda_c(2625)^+$	$\Lambda_c^+\pi^+\pi^-$	2628.11 ± 0.19	< 1.9	$3/2^-$	well established, most precise measurements by CDF [1]
$\Lambda_c(2765)^+$	$\Lambda_c^+\pi^+\pi^-$, $\Sigma_c\pi$	2766.6 ± 2.4	50	??	discovered by CLEO, seen by Belle, but parameters not measured [2]
$\Lambda_c(2880)^+$	$\Lambda_c^+\pi^+\pi^-$, $\Sigma_c\pi$, $\Sigma_c(2520)\pi$, D^0p	2881.53 ± 0.35	5.8 ± 1.1	$5/2^+$ (experimental evidence)	well established and seen in more than one mode [2–4]
$\Lambda_c(2940)^+$	D^0p, $\Sigma_c\pi$	$2939.3^{+1.4}_{-1.5}$	17^{+8}_{-6}	??	Seen by both BaBar [4] and BelleMizuk
$\Sigma_c(2455)^{++}$	$\Lambda_c^+\pi^+$	167.510 ± 0.17	$1.89\pm^{+0.09}_{-0.18}$	$1/2^+$	well established, most precise measurements by Belle [5]
$\Sigma_c(2455)^+$	$\Lambda_c^+\pi^+$	166.4 ± 0.4	< 4.6 @ 90% CL	$1/2^+$	well established, but parameters not measured precisely
$\Sigma_c(2455)^0$	$\Lambda_c^+\pi^+$	167.29 ± 0.17	$1.83^{+0.11}_{-0.19}$	$1/2^+$	well established, most precise measurements by Belle [5]
$\Sigma_c(2520)^{++}$	$\Lambda_c^+\pi^+$	$231.95^{+0.17}_{-0.12}$	$14.78 \pm +0.30_{-0.40}$	$3/2^+$	well etablished, most precise measurements by Belle [5]
$\Sigma_c(2520)^+$	$\Lambda_c^+\pi^+$	231.0 ± 2.3	< 17 @ 90% CL	$3/2^+$	fairly well established, awaits precise measurement
$\Sigma_c(2520)^0$	$\Lambda_c^+\pi^+$	$232.02^{+0.15}_{-0.14}$	$15.3^{+0.4}_{-0.5}$	$3/2^+$	well established, most precise measurements by Belle [5]
$\Sigma_c(2800)^{++}$	$\Lambda_c^+\pi^+$	514^{+4}_{-6}	75^{+18+12}_{-13-11}	tentatively identified	observed by Belle [6] - should be confirmed
$\Sigma_c(2800)^+$	$\Lambda_c^+\pi^0$	505^{+15}_{-5}	62^{+37+52}_{-23-38}	as members of the predicted	
$\Sigma_c(2800)^0$	$\Lambda_c^+\pi^-$	519^{+5}_{-7}	72^{+22}_{-15}	Σ_{c2} $3/2^-$ isospin triplet?	same states as that below?
	$\Lambda_c^+\pi^-$	$560 \pm 8 \pm 10$	86^{+33}_{-22}		seen by Babar [7] in resonant substructure of B decays - needs confirmation
$\Xi_c'^+$	$\Xi_c^+\gamma$	110.5 ± 0.4		$1/2^+$	well established
$\Xi_c'^0$	$\Xi_c^0\gamma$	108.3 ± 0.4		$1/2^+$	well established
$\Xi_c(2645)^+$	$\Xi_c^0\pi^+$	178.5 ± 0.1	2.1 ± 0.2	$3/2^+$	well established, widths recently measured by Belle [8]
$\Xi_c(2645)^0$	$\Xi_c^+\pi^-$	174.7 ± 0.1	2.4 ± 0.2	$3/2^+$	
$\Xi_c(2790)^+$	$\Xi_c'^0\pi^+$	320.7 ± 0.5	9 ± 1	$1/2^-$	well established, widths recently measured by Belle [8]
$\Xi_c(2790)^0$	$\Xi_c'^+\pi^-$	323.8 ± 0.5	10 ± 1	$1/2^-$	
$\Xi_c(2815)^+$	$\Xi_c(2645)^0\pi^+$	348.8 ± 0.1	2.43 ± 0.23	$3/2^-$	well established, widths recently measured by Belle [8]
$\Xi_c(2815)^0$	$\Xi_c(2645)^+\pi^-$	349.4 ± 0.1	2.54 ± 0.23	$3/2^-$	
$\Xi_c(2930)^+$	$\Lambda_c^+K_S^0$	$2942.3 \pm 4.4 \pm 1.5$	$14.8 \pm 8.8 \pm 2.5$	??	"evidence" recently reported by Belle [9]
$\Xi_c(2930)^0$	$\Lambda_c^+K^-$	$2928.9 \pm 3.0^{+0.9}_{-12.0}$	$19.5 \pm 8.4^{+5.9}_{-7.9}$	??	originally reported by BaBar [11], confirmed by Belle [10]
$\Xi_c(2970)^+$	$\Lambda_c^+K^-\pi^+$, $\Sigma_c^{++}K^-$, $\Xi_c(2645)^0\pi^+$	2967.2 ± 0.8	21 ± 3	??	well established, but parameters in different modes and experiments differ
$\Xi_c(2970)^0$	$\Xi_c(2645)^+\pi^-$	2970.4 ± 0.8	28 ± 3	??	well established, but parameters in different modes and experiments differ
$\Xi_c(3055)^+$	$\Sigma_c^{++}K^-$,ΛD	3055.7 ± 0.4	8.0 ± 1.9	??	seen by Belle and BaBar [12–14]
$\Xi_c(3055)^0$	ΛD	3059.0 ± 0.8	6.2 ± 2.4	??	newly observed by Belle [14]
$\Xi_c(3080)^+$	$\Lambda_c^+K^-\pi^+$, $\Sigma_c^{++}K^-$, $\Sigma_c(2520)^{++}K^-$, ΛD	3077.8 ± 0.3	3.6 ± 0.7	??	seen by Belle and BaBar [12–15]
$\Xi_c(3080)^0$	$\Lambda_c^+K_S^0\pi^-$, $\Sigma_c^0K_S^0$, $\Sigma_c(2520)^0K_S^0$	3079.9 ± 1.0	5.6 ± 2.2	??	seen by Belle and BaBar [12, 14, 15]
$\Omega_c(2770)^0$	$\Omega_c^0\gamma$	2765.9 ± 2.0	0	$3/2^+$	seen by BaBar [16] and Belle [17]
$\Omega_c(3000)^0$	$\Xi_c^+K^-$	$3000.4 \pm 0.2 \pm 0.1^{+0.3}_{-0.5}$	$4.5 \pm 0.6 \pm 0.3$	??	LHCb [18]
$\Omega_c(3050)^0$	$\Xi_c^+K^-$	$3050.2 \pm 0.1 \pm 0.1^{+0.3}_{-0.5}$	< 1.2, 95%CL	??	LHCb [18]
$\Omega_c(3066)^0$	$\Xi_c^+K^-$	$3065.6 \pm 0.1 \pm 0.3^{+0.3}_{-0.5}$	$3.5 \pm 0.4 \pm 0.2$	??	LHCb [18]
$\Omega_c(3090)^0$	$\Xi_c^+K^-$	$3090.2 \pm 0.3 \pm 0.5^{+0.3}_{-0.5}$	$8.7 \pm 1.0 \pm 0.8$	??	LHCb [18]
$\Omega_c(3119)^0$	$\Xi_c^+K^-$	$3119.1 \pm 0.3 \pm 0.9^{+0.3}_{-0.5}$	$1.1 \pm 0.8 \pm 0.4$	??	LHCb [18]
$\Omega_c(3118)^0$	$\Xi_c^+K^-$	$3188 \pm 5 \pm 13$	$60 \pm 15 \pm 11$	??	Reported by LHCb [18], not clear if it is several resonances