

Table 3 (extension of Table 2). Recognition results of pitch and vowel quality tested for all sounds of a D-pattern with stepwise attenuation of H1 from 0 db to -100db (vowel recognition = 2 tests with 15 identifications, pitch recognition = 1 test with 10 identifications; double-vowel recognition = 1 test with 5 identifications; double-pitch recognition = 1 test with 5 identifications; values marked with "*" are taken from Table 2; details see Method). Columns 1–3 = sound production (S=series number, fo=fundamental frequency in Hz, V=vowel quality intended). Columns 4–8 = harmonic configuration of synthesis (H1=fundamental, AH1=attenuation of H1, D(i)=dominant harmonics, approximate values in Hz). Columns 9–14 = recognised vowel qualities (total of both tests). Columns 15–17 = recognised pitch level for the comparison of sounds related to a D-pattern with and without full attenuation of H1. Columns 18 and 19 = cases of two vowel qualities and/or two pitches recognised for a single sound. – Recognition rates $\geq 80\%$ of mid-closed vowels and/or of low pitch is highlighted in blue, and recognition rates $\geq 80\%$ of closed vowels and/or of high pitch is highlighted in red.

Natural sound			Harmonic synthesis					Vowel recognition						Pitch recognition		Double vowel double pitch recognition	
S	f _o	V	H1	AH1	D1	D2	D3	o	ø	e	u	y	i	low	high	Vowel	Pitch
1	220	e	220	0	440	2640	3080			13			2	10		3	4
			(200)	-5						10			5	9	1	3	4
			(200)	-10						11			4	9	1	4	4
			(200)	-15						6			9	9	1	4	5
			(200)	-20						5			10	7	3	4	5
			(200)	-30									15		10	1	2
			(200)	-50									15		10	1	1
			–	-100									15		10	0	1
2	220	e	220	0	440	2640	3080		1	13			1	10		3	4
			(200)	-5					2	13				10		3	4
			(200)	-10					1	13			1	10		2	4
			(200)	-15						13			2	7	3	2	4
			(200)	-20						9			6	6	4	3	4
			(200)	-30						9		2	4	6	4	4	4
			(200)	-50						3			12		10	2	2
			–	-100						3			12		10	2	1
3	220	ø	220	0	440	2640	3080		15					10		2	3
			(200)	-5					15					10		1	4
			(200)	-10					14			1		10		2	4
			(200)	-15					13			2		10		2	3
			(200)	-20					12			3		8	2	2	5
			(200)	-30					8			7		5	5	4	5
			(200)	-50								15			10	2	1
			–	-100								15			10	0	1
4	220	ø	220	0	440	2640	3080		15					10		3	4
			(200)	-5					15					10		2	4
			(200)	-10					14			1		10		2	4
			(200)	-15					11			4		8	2	2	4
			(200)	-20					9			6		6	4	3	4
			(200)	-30					7			8		5	5	3	5
			(200)	-50					1			14			10	1	2
			–	-100					1			14			10	1	1
5	220	o	220	0	440	2640	3080		15					10		2	1
			(200)	-5					14			1		10		2	1
			(200)	-10					12			3		9	1	3	2
			(200)	-15					10			5		7	3	2	3
			(200)	-20					7			8		6	4	2	4
			(200)	-30					6			9		4	6	2	5
			(200)	-50								15			10	1	0
			–	-100								15			10	1	0
6	220	o	220	0	440	2640	3080		12			3		10		1	o
			(200)	-5					12			3		10		1	o
			(200)	-10					12			3		9	1	2	2
			(200)	-15					10			5		9	1	2	2
			(200)	-20					8			7		8	2	3	4
			(200)	-30					6			9		6	4	3	5
			(200)	-50								15			10	1	0
			–	-100								15			10	0	0