

# Ionian Tonic Arrivals as Generators of Chorus Quality in Pop/Rock Songs

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# **Ionian Tonic Arrivals as Generators of Chorus Quality in Pop/Rock Songs**

I. Background

II. Hypothesis

III. Examples

IV. Counterexamples

V. Discussion

# Typical Characteristics of a Chorus Section

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- Focal point of song (Covach 2005)
- More energy than verse (Stephan-Robinson 2009)
- Most memorable section (Harris 2006, Osborn 2010)

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- Includes the title of the song (Endrinal 2008)
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## *Pitch and Rhythm*

- Less pentatonic (Temperley 2007)
- Melody more coordinated with harmony (Temperley 2007)
- Has slower vocal rhythm than verse (Stephenson 2002)

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(Summach 2012)

	starts on tonic			ends on tonic		
	<b>A</b>	<b>V</b>	<b>C</b>	<b>A</b>	<b>V</b>	<b>C</b>
1955–9	92%	92%	84%	100%	84%	100%
1960–4	93%	94%	60%	92%	70%	80%
1965–9	90%	88%	75%	83%	43%	58%
1970–4	83%	78%	70%	83%	52%	67%
1975–9	85%	79%	78%	85%	37%	60%
1980–4	95%	82%	73%	79%	43%	61%
1985–9	100%	91%	74%	75%	29%	55%

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1980–4	95%	82%	73%	79%	43%	61%
1985–9	100%	91%	74%	75%	29%	55%

- Shifts to relative major if verse is in minor  
(Perricone 2000, Neal 2008, Doll 2011)

## **Five Scenarios for Ionian Tonic Arrivals as Generators of Chorus Quality**

- 1) Verse and chorus have the same diatonic collection but different tonal centers (e.g., minor and relative major)

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- 4) Verse and chorus have same tonal center and diatonic collection, but chorus includes more arrivals on the Ionian tonic
- 5) Verse and chorus have same tonal center and diatonic collection, but verse avoids Ionian tonic



## Scenario 1: Same diatonic collection, different tonal centers

Justin Timberlake, "Mirrors" (2013)

### Verse (C minor)

Cm	Gm	Fm	. G/B	
Just know that I'm always	parallel	on the other side		

Cm	Gm	Fm	Ab	
... hand in my hand and a pocket full of soul, I can tell you there's no place we couldn't go				

Cm	Gm	Fm		
...hand on the glass, I'll be tryin' to pull you through, You just gotta be strong				

### Chorus (Eb major)

Eb	Bb	Ab		
... I don't wanna lose you now, I'm lookin' right at the other		half of me		

Eb	Bb	Ab		
The vacancy that sat in my heart	is a space that now you hold			

# Scenario 1: Same diatonic collection, different tonal centers

Justin Timberlake, "Mirrors" (2013)

## Verse (C minor)

	<b>i</b>		<b>v</b>		<b>iv</b>		<b>. V6</b>		
Just	know	that	I'm	always	parallel	on	the	other	side

	<b>i</b>		<b>v</b>		<b>iv</b>		<b>bVI</b>												
... hand	in	my	hand	and	a	pocket	full	of	soul,	I	can	tell	you	there's	no	place	we	couldn't	go

	<b>i</b>		<b>v</b>		<b>iv</b>										
...hand	on	the	glass,	I'll	be	tryin'	to	pull	you	through,	You	just	gotta	be	strong

## Chorus (Eb major)

	<b>I</b>		<b>V</b>		<b>IV</b>									
... I	don't	wanna	lose	you	now,	I'm	lookin'	right	at	the	other	half	of	me

	<b>I</b>		<b>V</b>		<b>IV</b>								
The	vacancy	that	sat	in	my	heart	is	a	space	that	now	you	hold

## Scenario 1: Same diatonic collection, different tonal centers

Neil Young, "Rockin' in the Free World" (1991)

### Verse (E minor)

Em	D C	Em	D C	
There's a warning sign on the road ahead, There's a lot of people sayin' we'd be better off dead				
Em	D C	Em	D C	
Don't feel like Satan, but I am to them, So I try to forget it, any way I can.				

### Chorus (G major)

G	D	C	C Em	
Keep on rockin' in the free world,				
G	D	C	C Em	
Keep on rockin' in the free world,				

## Scenario 2: Same tonal center, different diatonic collections

Duran Duran, “Rio” (1982)

### Verse (E minor)

	Em		C/E		A		C	
	With a step to the left and a flick to the right you catch the mirror way out west							
	Em		C/E		A/C#		C	
	You know you're something special, and you look like you're the best							

### Chorus (E major)

	E		B		D		A	
	Her names is Rio		and she dances		on the sand			
	E		B		D		A	
	Just like that river		twisting through		the dusty land			

## Scenario 2: Same tonal center, different diatonic collections

Duran Duran, “Rio” (1982)

### Verse (E minor)

	<b>i</b>		<b>bVI6</b>		<b>IV</b>		<b>bVI</b>	
	With a step to the left and a flick to the right you catch the mirror way out west							
	<b>i</b>		<b>bVI6</b>		<b>IV6</b>		<b>bVI</b>	
	You know you're something special, and you look like you're the best							

### Chorus (E major)

	<b>I</b>		<b>V</b>		<b>bVII</b>		<b>IV</b>	
	Her names is Rio			and she dances		on the sand		
	<b>I</b>		<b>V</b>		<b>bVII</b>		<b>IV</b>	
	Just like that river			twisting through		the dusty land		

## Scenario 2: Same tonal center, different diatonic collections

Grassroots, “Temptation Eyes” (1970)

### Verse + Prechorus (Bb minor)

Bbm	Bbm/A	Eb/G	Gb	F	
She’s got something that moves my soul		and she knows	I’d love to	love her	
Bbm	Bbm/A	Eb/G	Gb	F	
But she let’s me down every time,		can’t make her mine,	she’s no one’s lover tonight		
Gb	Ab		F/A		
With me she’ll	be so inviting,	I want her all for myself			

### Chorus (Bb major)

Bb	C/Bb	Bb	C/Bb	
Temptation	eyes,	looking through my-my-my	soul	
Bb	C/Bb	Eb	F	
Temptation	eyes,	you got to love me,	got to love me	tonight

## Scenario 3: Different diatonic collections, different tonal centers

Duran Duran, “Hungry Like the Wolf” (1982)

### Verse (E major)

	E							
	Woman		you		want		me,	
	give		me		a		sign,	
	and		catch		my		breathing	
	even		closer		behind			
	D				E			
Do	do	do	do	do	do	do	do	....

### Chorus (C major)

	C		G		F			
	In		touch		I'm		on	
	with		the		the		hunt,	
	ground,				I'm		after	
	you							
	C		G		F		D	(C)
Smell	like	I	sound,	I'm	lost	in	a	crowd,
					and	I'm	hungry	like
							the	wolf

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	I							
	Woman		you		want		me,	
	give		me		a		sign,	
	and		catch		my		breathing	
	even		closer		behind			
	bVII				I			
	Do		do		do		do	
	do		do		do		do	
	do		do		do		do	
	do		do		do		do	

### Chorus (C major)

	I		V		IV			
	In		touch		I'm		on	
	with		the		the		hunt,	
	ground,				I'm		after	
	you							
	I		V		IV		II	(I)
	Smell		like		I'm		lost	
	I		sound,		and		I'm	
	I'm		lost		hungry		like	
	in		a		the		wolf	
	crowd,							



## Scenario 3: Different diatonic collections, different tonal centers

The Police, “Don’t Stand So Close To Me” (1980)

### Verse (G minor)

<b>E<sub>b</sub></b>		<b>G<sub>m</sub></b>	
Inside her	there’s longing,	this girl’s an open page	
<b>E<sub>b</sub></b>		<b>G<sub>m</sub></b>	
Bookmarking,	she’s so close now,	this girl is half his age	

### Chorus (D major)

<b>D</b> <b>A</b>	<b>D</b> <b>A</b>	<b>B<sub>m</sub>7</b>	<b>A<sub>sus</sub></b>	
Don’t stand so,	don’t stand so,	don’t stand so close to me		
<b>D</b> <b>A</b>	<b>D</b> <b>A</b>	<b>B<sub>m</sub>7</b>	<b>A<sub>sus</sub></b>	
Don’t stand so,	don’t stand so,	don’t stand so close to me		

## Scenario 4: Same tonal center and diatonic collection, more Ionian tonic arrivals in chorus

The Cars, “Just What I Needed” (1978)

### Verse (E major)

E	B	C#m	G#	
You always knew to wear it well, and...		you look so fancy I can tell		
E	B / D#	G#m	A	
...and I don't mind you hanging out		and talking in your sleep.		

### Chorus (E major)

E	B	A . C#m	B	E	B	A	C#m	
I guess you're just what I needed,				I needed someone to feed				
E	B	A . C#m	B	E	B	A	C#m	
I guess you're just what I needed,				I needed someone to bleed				

## Scenario 4: Same tonal center and diatonic collection, more Ionian tonic arrivals in chorus

The Cars, “Just What I Needed” (1978)

### Verse (E major)

I	V	vi	V/vi	
You always knew to wear it well, and...		you look so fancy I can tell		
I	V6	iii	IV	
...and I don't mind you hanging out		and talking in your sleep.		

### Chorus (E major)

I	V	IV . vi	V	I	V	IV	vi	
I guess you're just what I needed,				I needed someone to feed				
I	V	IV . vi	V	I	V	IV	vi	
I guess you're just what I needed,				I needed someone to bleed				

## Scenario 4: Same tonal center and diatonic collection, more Ionian tonic arrivals in chorus

AC/DC, “Highway to Hell” (1979)

### Verse (A major)

	A . . D / F#		G . . D / F#		G D / F# G D / F#		A	
	Don't need reason,		don't need rhyme,		ain't nothing that I'd rather do			
	A . . D / F#		G . . D / F#		G D / F# G D / F#		E	
	Going down		for a time,		my friends are gonna be there, too			

### Chorus (A major)

	A		D / A .	G D / F#		A		D / A .	G D / F#	
	Highway to Hell,					Highway to Hell,				
	A		D / A .	G D / A		A		D		
	Highway to Hell,					I'm on the Highway to Hell,				

## Scenario 5: Same tonal center and diatonic collection, verse avoids Ionian tonic

Prince, “Little Red Corvette” (1982)

### Verse (Db major)

Gb	Ab	Bbm	Gb	
Guess I must be dumb,	shared a pocket full of horses,	Trojan and some of them used		
Gb	Ab	Bbm	Ab	
... Saturday night,	I guess that makes it all right,	you said what have I got to lose?		

### Chorus (Db major)

Gb	Ab	Db	Gb	Ab	Bbm	
Little	red	Corvette,	Baby,	you're much to fast		
Gb	Ab	Db	Gb	Ab		
Little	red	Corvette,	You need a love that's gonna last			

## Scenario 5: Same tonal center and diatonic collection, verse avoids Ionian tonic

Prince, “Little Red Corvette” (1982)

### Verse (Db major)

	IV		V		vi		IV		
	Guess		shared		a pocket full of horses,		Trojan		and some of them used
	IV		V		vi		V		
	...		Saturday night,		I guess that makes it all right,		you said what have I got to lose?		

### Chorus (Db major)

	IV	V		I		IV	V		vi	
	Little	red		Corvette,		Baby,	you're		much to fast	
	IV	V		I		IV		V		
	Little	red		Corvette,		You need a love that's gonna last				

## Scenario 5: Same tonal center and diatonic collection, verse avoids Ionian tonic

The Police, “Every Little Thing She Does Is Magic” (1981)

### Verse (D major)

(G)	(A)	(B)	(C#)	
For I have tried before to tell her		of the feelings I have for her in my heart		
(G)	(A)	(B)	(C#)	
(G)	(A)	(B)	(C#)	
Every time that I come near her		I just lose my nerve as I've done from the start		
D . G A	D . G A	D . G A	D	

### Chorus (D major)

A	D	A	D	
Every little things she does is magic,		everything she do just turns me on.		
A	D	A	Bb	
Even though my life before was tragic,		now I know my love for her goes on.		

## Counterexample: “Chorus” in Relative Minor

Foreigner, “Cold as Ice” (1977)

### “Chorus” (Eb minor)

Ebm		Cb		
	You’re as cold as ice		You’re willing to sacrifice our love	
Ebm		Cb		
Ebm		Cb		Abm
	You never take advice		Someday you’ll pay the price I know.	

### “Verse” (Gb major)

Gb	F	Abm	Cb Db	
I’ve seen it before, it happens all the time,		You’re closing the door,	you leave the world behind	
Gb	F	Abm	Bb	
You’re digging for gold, yet throwing away a fortune in feelings,		but someday you’ll pay		



## Counterexample: “Chorus” in Relative Minor

Foreigner, “Cold as Ice” (1977)

<b>Start</b>	<b>Mm.</b>	<b>Key</b>	<b>Covach 2003</b>	<b>Alt. Analysis</b>
0:00	4	Eb min	Intro	Intro
0:08	12	Eb min	Chorus	Verse
0:32	8	Gb maj	Verse	Chorus
0:47	16	Eb min	Chorus	Verse
1:17	8	Gb maj	Verse	Chorus
1:33	8	Eb min	Solo	Solo
1:47	14	Eb min	Bridge	Bridge
2:13	32	Eb min	Chorus	Verse

## Counterexample: “Chorus” in Relative Minor

Foreigner, “Cold as Ice” (1977)

### “Chorus” (Eb minor)

i	bVI
You're as cold as ice	You're willing to sacrifice our love
i	bVI
i	bVI   iv
You want paradise	But someday you'll pay the price I know.

### “Verse” (Gb major)

I   VII	ii   IV V
I've seen it before, it happens all the time,	You're closing the door, you leave the world behind
I   VII	ii   V/vi
You're digging for gold, yet throwing away a fortune in feelings,	but someday you'll pay

## Counterexample: “Chorus” that avoids Ionian tonic

Led Zeppelin, “Communication Breakdown” (1969)

### Verse (E major)

E   . D	A D	E   . D	A D	
I don't know what it is I like about you but I like it a lot				
E   . D	A D	E   . D	A D	
Won't you let me hold you, let me feel your lovin' charms?				

### “Chorus” (E major)

A7			
Communication breakdown,		it's always the same	
B7			(E)
(I'm) havin' a nervous breakdown,		drive me insane	

# Counterexample: “Chorus” that avoids Ionian tonic

Led Zeppelin, “Communication Breakdown” (1969)

## Verse (E major)

| I | . bVII IV bVII | I | . bVII IV bVII |

I don't know what it is I like about you but I like it a lot

| I | . bVII IV bVII | I | . bVII IV bVII |

Won't you let me hold you,

let me feel your lovin' charms?

## “Chorus” (E major)

| IVb7 | |

Communication breakdown,

| | |

it's always the same

| V7 | |

(I'm) havin' a nervous breakdown,

| | (I)

drive me insane

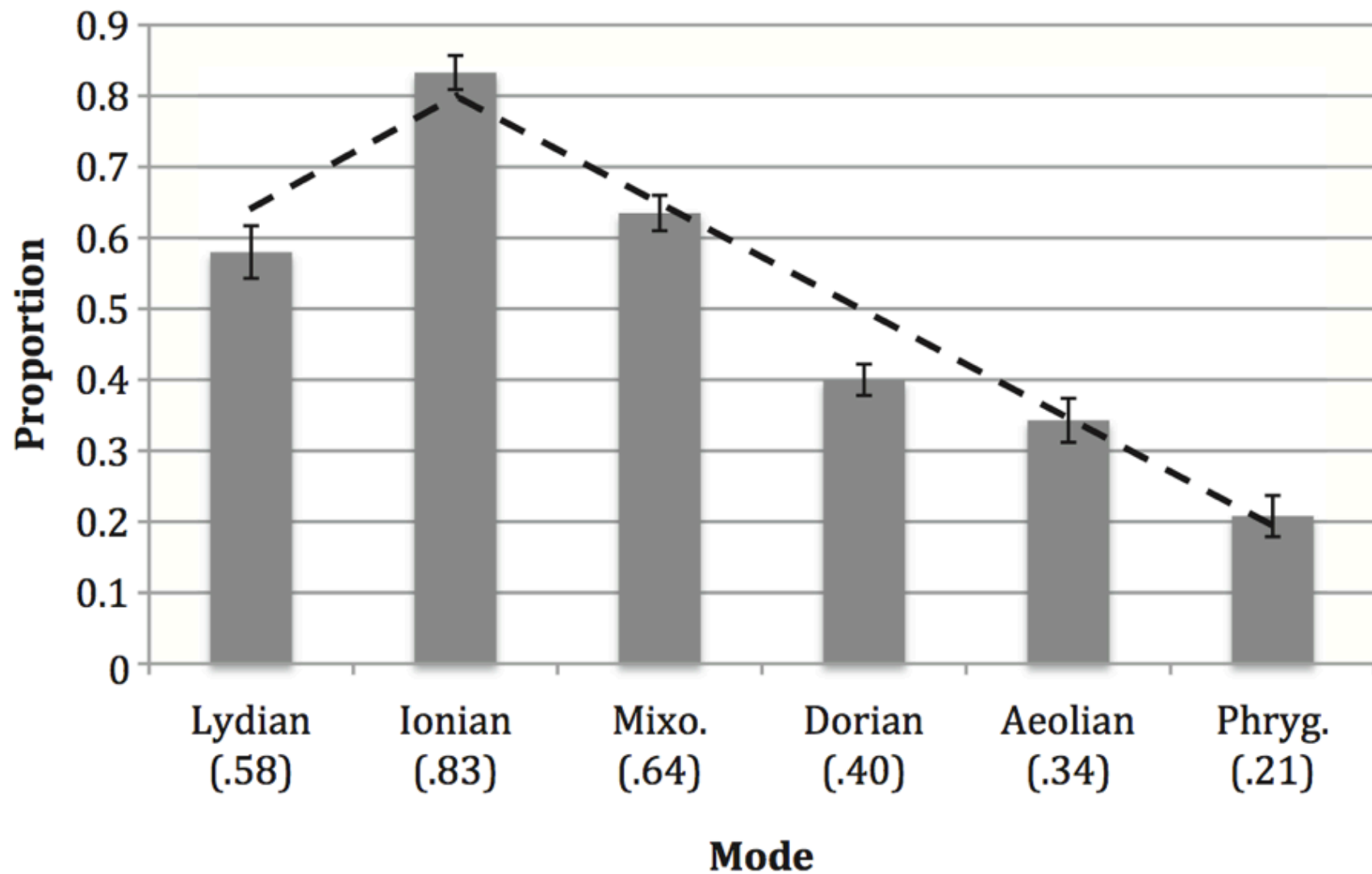
## Counterexample: “Chorus” that avoids Ionian tonic

Led Zeppelin, “Communication Breakdown” (1969)

<b>Mm.</b>	<b>New Form</b>	<b>Harmonies</b>					
8	Intro (Link)	I	.	bVII	IV	bVII	
16	Verse	I	.	bVII	IV	bVII	
8	Pre-chorus	IV	*4	V	*4		
8	Chorus	I	.	bVII	IV	bVII	
16	Verse	I	.	bVII	IV	bVII	
8	Pre-chorus	IV	*4	V	*4		
8	Chorus	I	.	bVII	IV	bVII	
14	Solo	I	.	bVII	IV	bVII	
8	Pre-chorus	IV	*4	V	*4		
4	Link	I	.	bVII	IV	bVII	
16+	Outro (Chorus)	I	.	bVII	IV	bVII	

# Listener preference for Ionian mode

Temperley and Tan (2012)



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## Scenario 1: Same diatonic collection, different tonal centers

Neil Young, “Rockin’ in the Free World” (1991)

### Verse (E minor)

i	bVII bVI	i	bVII bVI	
There's a warning sign on the road ahead,	There's a lot of people sayin' we'd be better off dead			
i	bVII bVI	i	bVII bVI	
Don't feel like Satan, but I am to	them, So I try to forget it,		any way I can.	

### Chorus (G major)

I	V	IV	IV vi	
	Keep on rockin' in the free world,			
I	V	IV	IV vi	
	Keep on rockin' in the free world,			



## Scenario 2: Same tonal center, different diatonic collections

Grassroots, “Temptation Eyes” (1970)

### Verse + Prechorus (Bb minor)

i	i42	IV6	bVI V	
She’s got something	that moves my soul	and she knows	I’d love to love her	
i	i42	IV6	bVI V	
But she let’s me down	every time,	can’t make her mine,	she’s no one’s lover tonight	
bVI	bVII		V6	
With me she’ll	be so inviting,	I want her all for myself		

### Chorus (Bb major)

I	II42	I	II42	
Temptation	eyes,	looking through my-my-my	soul	
I	II42	IV	V	
Temptation	eyes,	you got to love me,	got to love me	tonight

## Scenario 3: Different diatonic collections, different tonal centers

The Police, “Don’t Stand So Close To Me” (1980)

### Verse (G minor)

<b>bVI</b>		<b>i</b>	
Inside her	there’s longing,	this girl’s an open page	
<b>bVI</b>		<b>i</b>	
Bookmarking,	she’s so close now,	this girl is half his age	

### Chorus (D major)

<b>I</b> <b>V</b>	<b>I</b> <b>V</b>	<b>vi7</b>	<b>Vsus</b>	
Don’t stand so,	don’t stand so,	don’t stand so close to me		
<b>I</b> <b>V</b>	<b>I</b> <b>V</b>	<b>vi7</b>	<b>Vsus</b>	
Don’t stand so,	don’t stand so,	don’t stand so close to me		

## Scenario 4: Same tonal center and diatonic collection, more Ionian tonic arrivals in chorus

AC/DC, “Highway to Hell” (1979)

### Verse (A major)

I . . IV6	bVII . . IV6	bVII IV6 bVII IV6	I
Don't need reason,	don't need rhyme,	ain't nothing that I'd rather do	
I . . IV6	bVII . . IV6	bVII IV6 bVII IV6	V
Going down	for a time,	my friends are gonna be there, too	

### Chorus (A major)

I	IV64 . bVII IV6	I	IV64 . bVII IV6	
Highway to Hell,		Highway to Hell,		
I	IV64 . bVII IV64	I	IV	
Highway to Hell,		I'm on the Highway to Hell,		

## Scenario 5: Same tonal center and diatonic collection, verse avoids Ionian tonic

The Police, “Every Little Thing She Does Is Magic” (1981)

### Verse (D major)

( 4 )	( 5 )	( 6 )	( 7 )	
For I have tried before to tell her		of the feelings I have for her in my heart		
( 4 )	( 5 )	( 6 )	( 7 )	
( 4 )	( 5 )	( 6 )	( 7 )	
Every time that I come near her		I just lose my nerve as I've done from the start		
I . IV V	I . IV V	I . IV V	I	

### Chorus (D major)

V	I	V	I	
Every little things she does is magic,		everything she do just turns me on.		
V	I	V	bVI	
Even though my life before was tragic,		now I know my love for her goes on.		