Supplementary Materials

Utilization of agroresidues for the production of xylanase by *Bacillus safensis* XPS7 and optimization of production parameters

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Supplementary Table S1: Alignment view using combination of NCBI GenBank and RDP database

Alignment view	ID	Alignment results	Sequence description
	XPS7	**1.00**	**Studied sample**
	NR_113945.1	**0.99**	*Bacillus safensis* strain NBRC 100820
	NR_148787.1	**0.99**	*Bacillus australimaris* strain MCCC 1A05787
	NR_112637.1	**0.99**	*Bacillus pumilus* strain NBRC 12092
	NR_148786.1	**0.99**	*Bacillus zhangzhouensis* strain MCCC 1A08372
	NR_041794.1	**0.99**	*Bacillus safensis* FO-36b
	NR_042337.1	**0.99**	*Bacillus altitudinis* 41KF2b
	NR_043242.1	**0.99**	*Bacillus pumilus* strain ATCC 7061
	NR_118439.1	**0.99**	*Bacillus aerius* strain 24K
	NR_148244.1	**0.99**	*Bacillus xiamenensis* strain MCCC 1A00008
	NR_042336.1	**0.99**	*Bacillus stratosphericus* strain 41KF2a
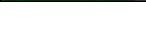
Supplementary Table S2: Composition of different media used (g/l)

| Medium composition	M1 (John & Schmidt, 1988)	M2 (Chan and Au, 1987)	M3 (Thorton 1922)	M4 (Robson & Chamblis, 1984)	M5 (Modified Riviere, 1961)	M6 (Reese & Mandel, 1963)	M7 (Wakeam & Fracet, 1922)	M8 (Modified Horikoshi, 2012)	M9 Xylan basal broth	M10 YPX medium	MM11 Xylan basal broth
Wheat Straw + Wheat Bran	40	40	40	40	40	40	40	40	40	40	40
$NaNO_3$	-	1	-	1	-	-	-	1	-	-	-
$Na_2HPO_4.7H_2O$	-	1.2	-	-	-	-	-	1.2	-	-	-
KH_2PO_4	1	0.9	2	6.89	10	0.5	1	9	-	-	-
K_2HPO_4	-	-	-	-	4.80	-	1.5	-	-	1	-
$MgSO_4.7H_2O$	0.2	0.5	0.3	0.3	0.8	0.2	-	0.5	-	0.2	0.5
KCl	-	0.5	-	-	-	-	-	0.5	-	-	-
Yeast extract	-	6	-	0.5	5	-	3	0.5	5	5	2
Casein hydrolysate	-	-	-	-	-	-	-	0.5	-	-	-
Tryptone	-	-	-	1.5	Traces	Traces	-	-	-	-	-
$FeCl_3.6H2O$	Traces	-	-	-	-	-	-	-	-	-	-
$(NH4)_2SO4$	-	-	14	-	-	-	-	-	-	-	-
NH_4Cl	-	-	-	2.5	1	-	2	-	-	-	-
$MnCl_2$	-	-	-	-	0.01	-	-	-	-	-	-
$CaCl_2$	0.1	-	0.3	-	0.05	-	-	-	-	-	-
$FeSO_4$	-	-	5	0.3	-	-	0.05	-	-	-	0.1
$ZnSO_4$	-	-	-	-	0.05	-	Traces	-	-	-	-
$ZnCl_2$	-	-	1.7	3	-	-	-	-	-	-	-
$CoCl_2$	-	-	0.2		-	-	-	-	-	-	-
NaCl	0.1	-	-	-	-	-	-	-	-	-	-
KNO_3	0.5	-	-	-	-	-	-	-	-	-	-
Peptone	-	-	1	-	-	-		2.5	2.5	5	-
Egg Albumin	-	-	-	-	-	0.25		-	-	-	-
Tween-80 (0.01%)	-	-	2	-	-	-	-	-	-	-	-
Urea	1	-	0.3	-	-	-	-	-	-	-	5

Supplementary Figure S1: Phylogenetic tree made using neighbour joining method.
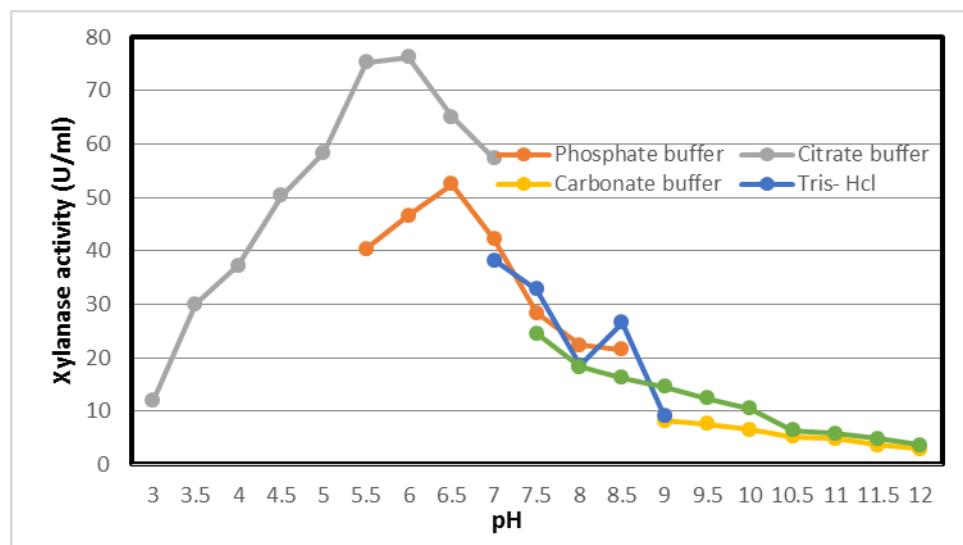

Supplementary Figure S2: Effect of different buffer systems and pH on the activity of xylanase by XPS7.
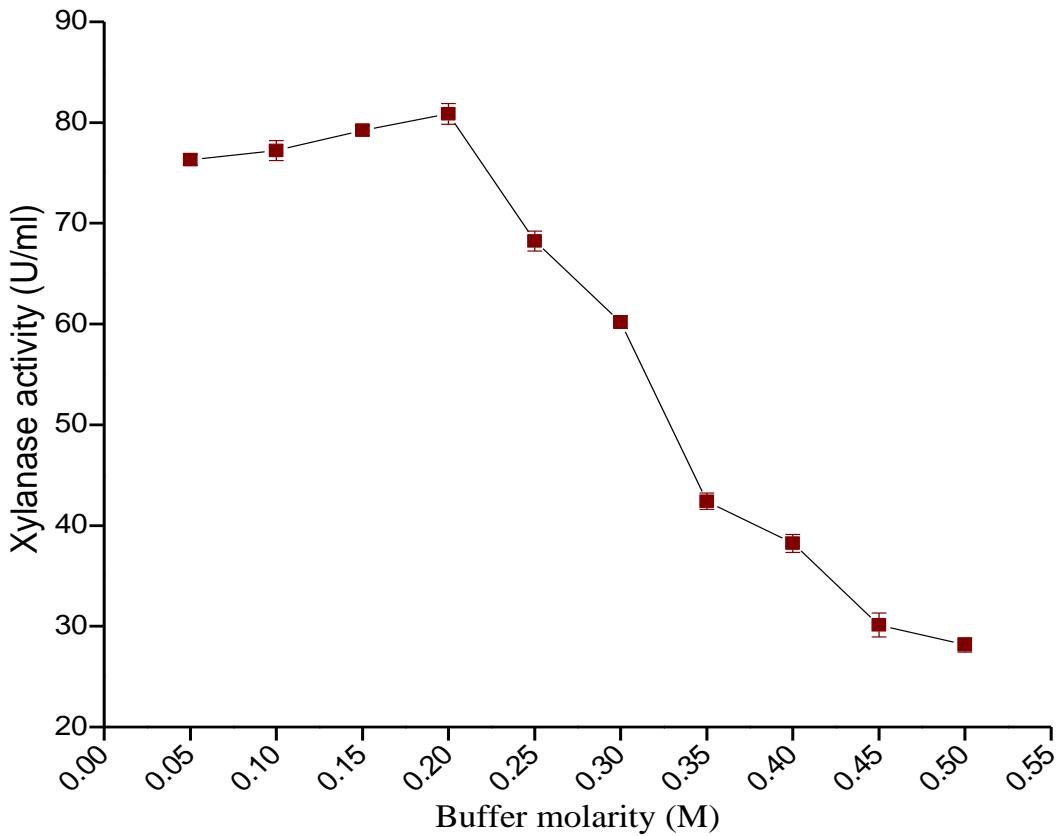
Supplementary Figure S3: Effect of buffer molarity on the production of xylanase by XPS7.
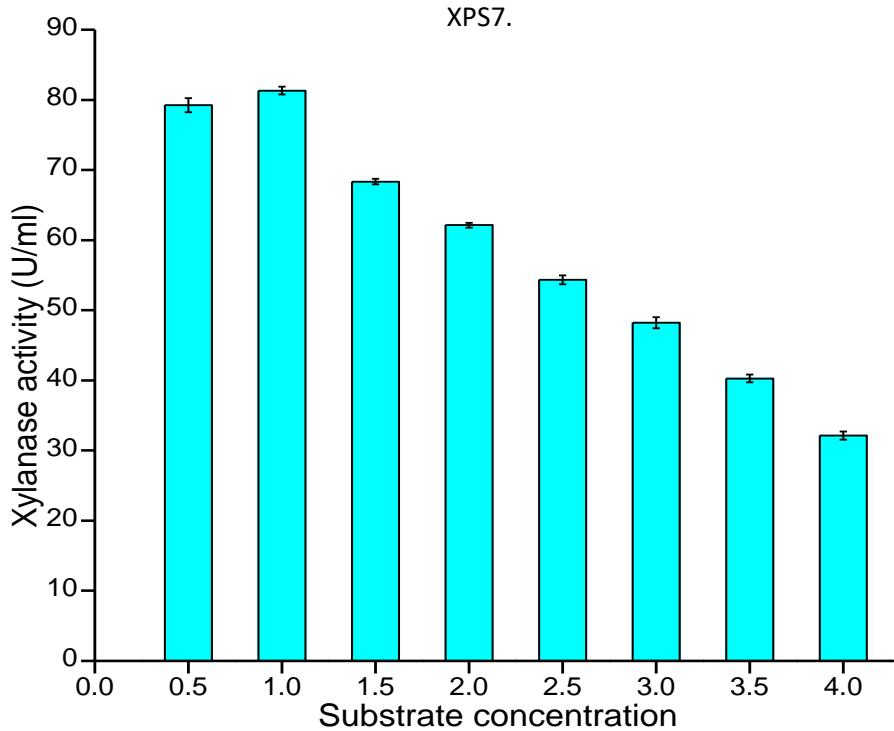
Supplementary Figure S4: Effect of substrate concentration on production of xylanase by XPS7.
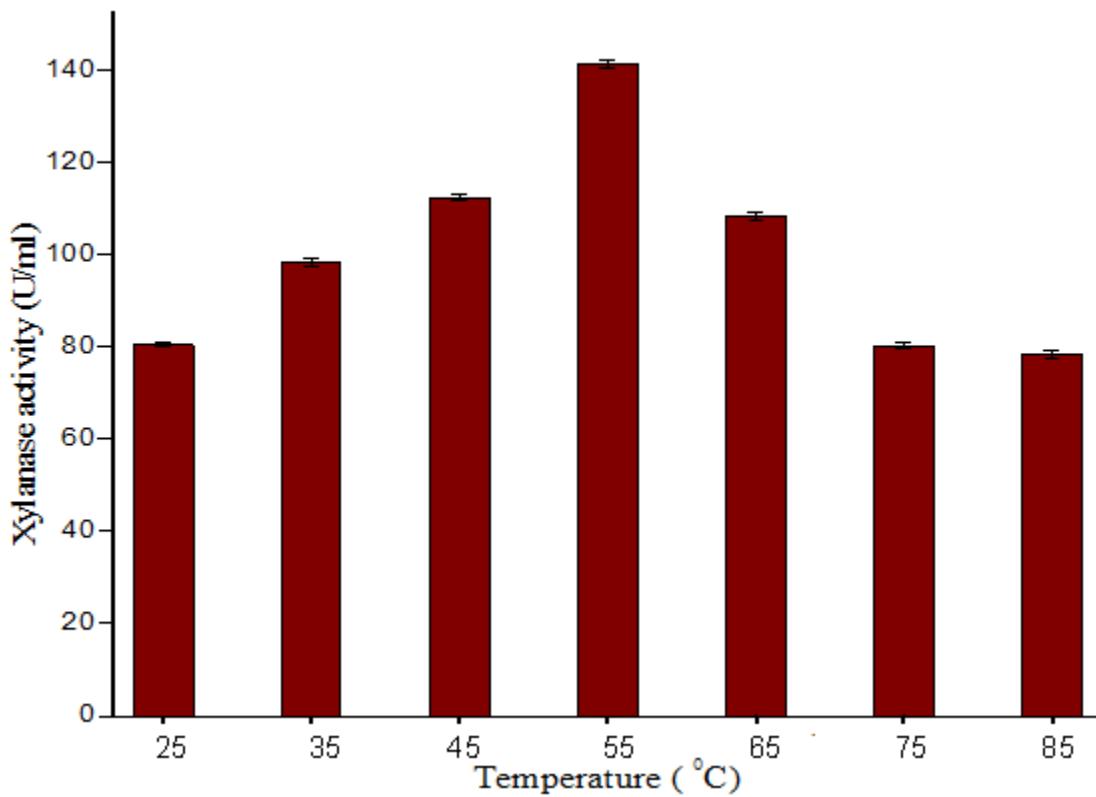
Supplementary Figure S5: Effect of incubation temperature on production of xylanase by XPS7.